Trade and Industry
13 May 1977 35p

Moving it: materials and mechanical handling

future features

Here, for the benefit of both readers and advertisers, is a selection of major features planned for *Trade and Industry* for the latter part of 1977. All dates and titles are provisional.

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Advertisers wishing to be associated with these features should contact Mike White at T. G. Scott and Son Ltd., 1 Clement's Inn, London WC2A 2ED, tel. 01-242 6264 or 01-405 4743, or ring John Bentley, Business Manager, on 01-215 5655.

Trade and Industry

13 May 1977

News from the Departments of Industry·Trade·Prices & Consumer Protection

Moving it

This week's special feature on materials and mechanical handling appears in conjunction with the opening, next week of Movement '77 at the National Exhibition Centre, Birmingham (see page 263).

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Member of the Audit Bureau of Circulations

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Trade and Industry this week

HOME

Hire purchase controls relaxed

Hire purchase in commercial transactions, car buying by disabled drivers, the hire of television sets and the terms of hiring agreements relating to the ownership of title are the subject of changes to hire purchase and hiring controls. Orders laid before parliament last Monday will correct anomalies in the existing orders and make them easier to operate. The new orders will take effect from 1 June.

Exemptions from control have been extended to include hire purchase, credit sale or hiring transactions where the goods are hired or purchased in the course of trade or business. The purchase or hire of standard motor cars by disabled persons is freed from control and the hire of all television sets more than two years old and those hired for not more than 30 days in any period of three months will also be exempt.

Hiring agreements and any related agreements in respect of controlled goods must not contain terms whereby the property in the goods will be transferred to the hirer or any other person. Payments of advance rentals in hiring agreements subject to the controls must be made only in cash or by cheque.

Merchant shipping bill on stocks

A major merchant shipping bill is now being prepared which will lead to improved safety at sea, new disciplinary arrangements for the Merchant Navy and major advances in preventing pollution of the sea, said Stanley Clinton Davis, Parliamentary Under-Secretary of State for Companies, Aviation and Shipping, on Tuesday.

In a speech to the Merchant Navy and Airline Officers' Association at Southampton he said, 'First of all, we are seeking wider rule-making powers, covering safety at sea, so that regulations can be made promptly. Then we want to see pilotage organisation in this country brought up-to-date, and wider powers for holding formal investigations into shipping casualties. I want to be able to curb shipowners' rights to limit their liability to crews for death or injury.

'I am sure all of us want to see new disciplinary arrangements coming into force. So, first of all, we need the bill to get the necessary enabling powers and then, with the minimum delay, we need the detailed regulations to breathe life into these powers. I am glad to tell you, therefore, that the working group has resumed its meetings and, hopefully, by the time the bill reaches the statute book, both sides of the industry will have sorted out the nuts and bolts and we can get on with the job.'

Mr Clinton Davis said the bill would also provide powers to ratify the 1973 international convention for the prevention of pollution at sea, known as Marpol '73, which was a major advance in preventing pollution. It not only incorporated and stiffened the 1969 amendments to the current 1954 pollution convention relating to oil, but also extended to other noxious substances.

Qualified growth for Yorkshire and Humberside

Preditable industrial patterns for Yorkshire and Humberside indicate decline in some industries, notably parts of the textile, clothing and fishing industries; and growth in the heavy engineering and manufacturing industries, in service industries and office employment. This view is expressed in the government's response* to the Yorkshire and Humberside economic planning council's regional strategy review†. It is agreed that priority should be given to the encouragement of investment needed for the modernisation and expansion of industry in the region and to measures designed to ensure that industry has sufficient resources available to increase exports.

The response recognises that the wool textile industry has suffered severe recession and that the clothing industry faces a further period of rationalisation and a slow decline in employment before reaching stability. On the other hand the steel and coal industries are thought to have good prospects in the region. It is acknowledged that the development of the engineering and metal-using industries is vital to the regional economy and suggests that expansion in the heavy engineering sector should be encouraged. The other manufacturing industries have shown a promising increase in employment, with a natural tendency towards modernisation, diversification and new growth.

The economic planning council advocated in its review the introduction of a more selective system for aiding industrial development; but in the government's opinion the review does not provide sufficient evidence of the need for a radical review of present regional industrial policies. Overall the region is seen as being resilient, with the ability to modernise and develop new industry and thus place its first reliance on its own growth.

* Yorkshire and Humberside Regional Strategy Review 1975 – Government Response. Available from Department of the Environment (DPRS 3/4), Room C11/21, 2 Marsham Street, London SW1P 3EB.

† Yorkshire and Humberside Regional Strategy Review 1975 – The next Ten Years. Available HM Stationery Office, price £2.50.

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Assistance interest rates down again

A reduction in the maximum rate of interest relief grant and interest rates for loans under section 7 of the Industry Act 1972 was effected from 9 May. The rate of interest relief grant available in those cases where it would be appropriate to allow the equivalent of an interest-free period on a Department of Industry loan, but where firms obtain their finance from other sources, is being reduced from 12 per cent to 11½ per cent for each interest-free year.

The 'concessionary' rate of interest on loans for employment-creating projects (category A) is reduced from 9 per cent to 8½ per cent. The 'broadly commercial' rate of interest on loans for modernisation projects not providing additional employment (category B) is reduced from 12 per cent to 11½ per cent.

Peek Foods investigation

Edmund Dell, Secretary of State for Trade, has appointed Miss Jean May Southworth, of Queen Elizabeth Building, Temple, London EC4, and Peter Wilfred Foss, of 4-7 Chiswell Street, London EC1, under section 165(b) of the Companies Act 1948, as amended, as inspectors to investigate and report on the affairs of Peek Foods Ltd (formerly called Consolidated Commercial Co Ltd).

OVERSEAS

Swedish tool-steel bars probe

On 9 May the Department of Trade announced an anti-dumping investigation into imports of certain tool-steel bars from Sweden. The investigation follows an application made under the Customs Duties (Dumping and Subsidies) Act 1969. The investigation will cover all imports of non-European Coal and Steel Community tool-steel bars from Sweden.

A statement of the applicant's case against imports of tool-steel bars from Sweden will be made available to interested parties who give an undertaking to treat the information contained in the statement in strict confidence. Any representations in connection with this application should be submitted in writing not later than 30 May. Such representations, in summarised form and without attribution to source, may be passed to the applicant for comment. Those making representations should stipulate any particular matters which they do not wish to be disclosed.

Any representations and requests for copies of the statement, together with an undertaking to treat it in strict confidence, should be sent in writing to General Division, Department of Trade, Room 348, Kingsgate House, 66-74 Victoria Street, London, SW1E 6SJ.

British JV at furniture fair

There are 25 British companies taking part in the first ever international section at the Scandinavian furniture fair which opened this week in Copenhagen.

The British Overseas Trade Board is backing this joint-venture display in collaboration with the British Furniture Manufacturers' Federated Association.

Exhibits cover a wide range of pieces designed for practically every use and occasion and will include moulded polypropylene chairs, wall units, furniture of co-ordinated design and a large selection of traditional and modern upholstery, modern and English reproduction furniture.

UK-Saudi commission meets

Prospects for increased trade and closer co-operation were discussed at the second session of the UK-Saudi joint commission, which ended in Riyadh yesterday (12 May). Topics on the agenda included health, agriculture, technical co-operation, urban development, education and training and major projects.

The UK delegation was led by John Caines, under secretary at the Department of Trade. The Saudi delegation was headed by Sheik Abdulla Alireza, Deputy Minister of Economic Affairs at the Ministry of Foreign Affairs.

Gerald Kaufman (centre), Minister of State for Industry, with members of the Hong Kong mission on Monday.

Hong Kong businessmen in UK

A group of 14 Hong Kong businessmen, members of a mission jointly organised by the Hong Kong General Chamber of Commerce and the Hong Kong Shipowners Association, were in London this week. They were led by David Newbigging, chairman of Jardine Matheson and Co Ltd.

Edmund Dell, Secretary of State for Trade, hosted a reception for the group on Monday and Mr Newbigging led the shipping and industrial discussions, which included a meeting with Gerald Kaufman, Minister of State for Industry, on the same day.

The chamber of commerce group was led by Daniel Koo, managing director of Shui Hing, one of Hong Kong's foremost departmental stores. Five stores were represented both by owners and senior buyers. In addition to London the group visited Birmingham and Scotland, where presentations were arranged by the Birmingham chamber of commerce and the Scottish Council.

Merseyside exports drive

Increased export sales mean increased employment opportunities because of higher profits and greater investment in industry. This was the central theme to come out of a major British Overseas Trade Board export drive on Merseyside on 11 and 12 May. The two-day drive was led by Sir Frederick Catherwood, chairman of the BOTB, and the Duke of Kent, vice-chairman of the board.

On 11 May Sir Frederick visited the factory of Newman Hattersley International Ltd at Ormskirk and the Duke of Kent, accompanied by BOTB's chief executive, Jim Wilks, visited Sykes-Pickavant Ltd at Lytham St Annes in the morning, and the factories of Capper-Neill International Ltd at St Helens, and Tavener Rutledge Ltd, Liverpool, in the afternoon. On Thursday morning, the Duke visited H. H. Robertson (UK) Ltd, Ellesmere Port.

An all-day 'Export Dynamics' conference was held yesterday (12 May) at the Adelphi Hotel, Liverpool, aimed at the encouragement of a practical and professional approach to exporting. The conference was chaired by Sir Frederick before an audience of over 200 people from manufacturing and service industries on Merseyside, including management and the shop floor.

Bernard Scott, a member of the BOTB and chief executive of Lucas Industries, was the speaker at lunch. Jack Jones, general secretary of the Transport and General Workers Union and a member of the BOTB, was present at the final discussion session of the conference.

Detailed case studies, highlighting the successes of the four firms to be visited by the Duke of Kent, were presented in audio-visual form by Brian Redhead, co-presenter of Radio Four's *Today* programme and former editor of the *Manchester Evening News*.

EUROPE

Further £13.5m from regional fund

Contributions of £13.5 million towards the cost of projects in the UK are to be made from the EEC regional development fund. This second 1977 allocation from the fund was announced by the commission yesterday (12 May).

The £13.5 million relates to five industrial projects and 191 infrastructure projects. It includes contributions totalling £3.5 million towards the cost of national aids to three industrial projects in England. The money from the industrial projects will not be passed on to the individual businesses concerned but will be retained by the government and used to go ahead with a greater total of regional investment than would otherwise have been possible.

This latest allocation brings the total fund contribution to UK projects approved in 1977 to £18.2 million, and since the inception of the fund in 1975, to £113.3 million.

Full details of these allocations will be published in *Trade and Industry* next week.

Home news

Modern practices for small firms

Specialist technological advice will be made available to small and medium-sized companies in manufacturing industry through a manufacturing advisory service being set up by the Department of Industry. Announced on 4 May by Eric Varley, Secretary of State for Industry, the aim of the service is to increase the efficiency of the companies by helping them to adopt modern but well proven technology and management practices.

The service is intended mainly for firms employing between about 100 and 1,000 employees in metal working and assembly, which are activities common to many industrial sectors, but a few schemes for specific sectors may be included.

Industrialists of wide engineering experience accompanied by a suitable team will visit selected companies to join with the management in surveying the firm's manuturing operations. In suitable cases the management and the team will jointly arrange a first short advisory project, to be undertaken by a team drawn from the most appropriate source of specialist advice, for example industry research associations, government research establishments, industrial consultants and universities. The service will be co-ordinated by the Production Engineering Research Association, which will also provide a technical inquiry and information service and demonstration facilities.

The service will start on a modest scale, aiming to cover some 700 firms in the first two years, at an estimated cost of £1.75 million. After review it may be extended. The secretary of state intends to appoint a steering committee for this service, including an industrialist chairman and independent members. Names will be announced later.

Further information can be obtained from the Department of Industry, Research Requirements Branch 3, Abell House, John Islip Street, London SW1P 4LN, tel. 01-211 3520.

Industrial democracy in the Post Office

The government has decided to facilitate a two-year experiment in industrial democracy in the Post Office. This was announced last week by Gerald Kaufman, Minister of State, Department of Industry, at a tripartite meeting with the Post Office and representatives of Post Office unions.

Mr Kaufman said that the government accepted as the basis of the experiment the agreed proposals put forward by the Post Office and the Council of Post Office Unions. These proposals envisaged a board of six management members, six worker members and four independents, in addition to the chairman. The government proposed that the balance should in fact be seven-seven-five with two of the independents specifically experienced in consumer affairs, while playing their full part with the 17 other board members in all the obligations and responsibilities of board membership.

The government first asked management and unions in the Post Office in 1974 for proposals for the extension of industrial democracy in the corporation. Earlier this year the Post Office and the Council of Post Office Unions, which represents the trades unions with members employed in the Post Office, submitted to the Secretary of State for Industry agreed proposals for an experiment in industrial democracy in the Post Office. The experiment would last for a period of two years, when it would be reviewed by the Post Office, the Council of Post Office Unions and the government.

In the light of further discussions on the size of the various elements on the board the government has proposed a small modification to the proposals. These proposals, as modified, envisage a board structure in the experimental period of seven management members with full-time executive responsibilities, seven part-time members representing the workers and five part-time members independent of either of these groups, in addition to the chairman. Two of the independent members would be persons specifically experienced in consumer affairs. The chairman would be additional unless he also holds a titular management function. The new structure cannot however be accommodated within the present statutory maximum of 12 members of the Post Office excluding the chairman and a bill is therefore being introduced to increase the maximum number of such members from 12 to 19.

Floated down the line

The first production line operating in Britain using air film transporters from Rolair Systems of Reading is to be installed by the International Harvester Company of Great Britain. As in a similar production line for earthmoving machinery shown below, tractors will be floated through paint spray booths and bake ovens on transporters fitted with four urethane diaphragms. Working off shop air at 90 psi a lubricating air film is created between transporter and floor allowing the tractors to be pushed down the line by hand with virtually no friction.

TUC consulted on Bullock

Edmund Dell, Secretary of State for Trade, together with Albert Booth, Secretary of State for Employment, and Alan Williams, Minister of State, Department of Industry, met members of the TUC Economic Committee last week to discuss industrial democracy and the report of the Bullock committee. The government is consulting with the TUC and CBI with the object of identifying as much common ground as possible and of preparing legislation which will command a wide measure of consent.

Mr Dell reaffirmed the government's intention to bring forward legislative proposals on industrial democracy for private sector companies and nationalised industries during the present session of parliament. His aim is to publish a white paper in the

summer and to introduce legislation as soon as possible thereafter. In reply, the TUC representatives said that legislation on industrial democracy should be seen as a halfway house between universally mandatory legislation on the one hand and purely enabling legislation on the other. The Bullock majority report did not follow the original TUC policy but included important elements of compromise, such as the $2x + y$ formula for composition of the board. Among further points made by the TUC was that employee representation must be on the main policy board of the company where decisive authority lies. It was agreed to continue the discussion towards the end of the month.

Post Office to pay back excess profit

In order to conform with the price code, the Post Office has made proposals for repaying to customers some £100 million. These proposals are acceptable to the Price Commission, and they have been put to the Post Office Users' National Council for its early consideration. Subject to the views of the council about the distribution of this sum, which the Post Office will of course consider, the proposals as they stand would take the form of a once-and-for-all credit of £7 on the first telephone bill issued on or after 1 October in respect of each direct exchange line existing at the date, in those cases where an installation also exists today. In addition there would be a reduction in the price of cheap rate local calls by increasing the time allowed for the 3p unit charge from eight minutes to 12 minutes.

Expansion into advance factory

Steel Case Co Ltd has been allocated a 25,000 sq ft Welsh Development Agency advance factory on the Tafarnaubach Industrial Estate, Tredegar, by John Morris, Secretary of State for Wales. The company has been based in a development agency factory at Tredegar for a number of years where it manufactures plough components and equipment.

As a result of being allocated this existing factory the company will be able to make an early start on the manufacture of agricultural tillage discs and expand its output of other components. It is estimated that over 70 male jobs will be created in the new premises in the next few years.

Butter price controls

Price controls designed to ensure lower butter prices are to be re-imposed with effect from 9 May. Maximum price limits for subsidised butter are contained in an order laid before parliament last week. The order also freezes distributors' margins on butter at the level obtained prior to the introduction of the new EEC subsidy on 1 May.

It should ensure that the full benefit of the butter subsidy, negotiated at the recent meeting of EEC agricultural ministers, will be passed through to consumers. Under the new arrangements butter of EEC origin will be subsidised at the rate of £190.98 per ton, the equivalent of about 10p per lb at retail level, to be financed entirely from EEC funds.

Order to restrict charges revoked

The Price Commission has revoked the notice issued on 4 December 1975 under section 6 (2) and (3) of the Counter-Inflation Act 1973 to Grayston Ltd of Riverside Road, London SW17, requiring the company to restrict charges for the hire of contractors' plant and equipment. The notice issued in December 1975 required Grayston to reduce charges by an average of 2 per cent in order to eliminate excess profits of £150,449 made between 1 April 1974 and 31 March 1975. The excess having been eliminated the notice is no longer required and has therefore been revoked.

Insurance practice

Discussions between leading insurers and the government have resulted in a statement of insurance practice relating to the non-life insurances of private policyholders. This was announced in parliament last week by Stanley Clinton Davis, Parliamentary Under Secretary of State at the Department of Trade.

The British Insurance Association and Lloyd's have drawn up the statement of insurance practice which they are recommending to their members. Its aim is to protect insurance policyholders from unfair treatment as a result of the terms of insurance contracts, in view of the proposed exclusion of insurance contracts from the Unfair Contract Terms Bill. The Life Officers' Association is to consider drawing up a parallel statement of practice relating to life assurance (see page 277).

Lord Slater dies

Lord Slater, assistant post-master general from 1964 to 1969, died on 27 April aged 72.

Need to help school-leavers

Although there had been a disappointing response from employers to the pilot courses started last autumn for unified vocational preparation, it was important to persevere, both for the sake of the youngsters themselves, and to learn as much as possible about combining education and training in appropriate ways, said Shirley Williams, Secretary of State for Education and Science.

Speaking at Harrow College of Further Education last week, Mrs Williams said that the unified vocational preparation pro-

Investment in exports

Designed to meet the rapidly growing demand for tennis balls, the world-wide consumption of which reached 170 million in 1976, Dunlop's International Sports Company is undertaking a £2 million investment programme at its factory in Barnsley, Yorkshire. The new investment will expand capacity by a further 33 per cent. The Barnsley factory consistently exports 80 per cent of its production.

gramme was the joint initiative of the Training Services Agency and the education departments to help the 300,000 poorly qualified school-leavers who found jobs that offered little or no further education or training. 'If we fail to achieve the closest collaboration between employment and training interests and the education world,' said Mrs Williams, 'future prospects are gloomy, both for young people and for the country at large.'

The economic crisis was having a most tragic effect on rising youth unemployment. It was little consolation to know that most of western Europe as well as north America was suffering similarly in what threatened to become an epidemic unless effective action was taken. Last week's figures showed there had been a 20,000 increase in unemployed school leavers between March and April. There were now over 200,000 youngsters without jobs, and indications suggested the position would worsen anyway until economic recovery was well under way.

The government, through the Training Services Agency (TSA), had launched a number of initiatives designed to help many youngsters who would otherwise have been unemployed.

Clothing scheme adviser

Dr A. H. Jagger has taken over Stephen Carter's responsibilities as industrial adviser to the Department of Industry's clothing industry scheme. Dr Jagger has been with the scheme's administration unit since September 1976. He was previously with Courtaulds Ltd, first with their research division, then British Celanese and more recently on the group's clothing side. Mr Carter has completed his secondment period and returned to Carrington Viyella to become managing director of Quelrayn Ltd.

Furniture Development Council

Eric Varley, Secretary of State for Industry, has authorised the following appointments to the Furniture Development Council: **Employers' Representatives** Dr C. Cohen, Mr B. W. J. Dimmock and Mr M. Dixon, with Mr M. Ferguson, Mr C. E. Gibbs, Mr F. Glenister, Mr J. Harle being reappointed. **Employees' representatives** Mr A. Utting, with Mr T. Cheney, Mr B. Rubner and Mr W. E. Vince being reappointed. **Representing marketing and distribution interests** Dr E. L. Datnow, with the independent member, Dr E. G. West, being reappointed.

Offshore market opportunities

Further opportunities for Scottish industry in North Sea oil markets arising from the maintenance, inspection and repair needs offshore have been identified. Export market opportunities and gaps in the existing coverage of the market are also highlighted in a report produced by a joint committee of the Oil Development Council for Scotland and the Scottish Economic Council.

'Scottish Industry and Offshore Markets', published by the Scottish Office along with a government commentary, draws attention to a large market in maintenance, inspection and repair activities in the North Sea which will stretch over many years ahead. The committee concludes that there is a prime requirement for a broad-based structural maintenance contracting consortium capable of carrying out major repairs and maintenance. There are also opportunities associated with the day-to-day maintenance of more conventional forms of equipment used off-

Particulars of dealers in securities and of unit trusts

The following changes have taken place in parts 1, 4 and 5 of the 1976 edition of 'Particulars of Dealers in Securities and of Unit Trusts' published in May 1976 under the Prevention of Fraud (Investments) Act 1958.

PART 1 HOLDERS OF PRINCIPALS' LICENCES

Name	Nationality or country of incorporation	Address
ADDITIONS		
Commodity Analysis Ltd	Great Britain	194-200 Bishopsgate, London EC2M 4PE
Templegate Industrial Securities Ltd	Great Britain	30 Queen Charlotte Street, Bristol BS1 4HS
Trinity Trust and Savings Ltd	Great Britain	Osborn House, Trinity Trees, Eastbourne, Sussex BN21 3BB
DELETIONS		
Philipp Brothers and Joseph Ltd	Great Britain	31-45 Gresham Street, London EC2V 7EA
Robert Kitchen Taylor and Co Ltd	Great Britain	18 Harcourt House, 19 Cavendish Square, London W1M 0JR
CHANGES OF ADDRESS		
Coates [C. E. Coates and Co Ltd]	Great Britain	UCM House, Swallow Place, Princes Street, London W1A 1BB
Corinthian Securities Ltd	Great Britain	20 Welbeck Street, London W1M 7PG
Fox-Pitt, Kelton Inc	USA	2-12 Wilson Street, London EC2M 2TE
Jackson Graham Moore and Partners		Wardgate House, 59A London Wall, London EC2M 5TP

PART 4 EXEMPTED DEALERS including TRUSTEE SAVINGS BANKS

Name	Registered office, principal place of business or principal place of business in Great Britain
CHANGE OF ADDRESS	
Finlay [James Finlay Corporation Ltd]	PO Box 58, Finlay House, 10-14 West Nile Street, Glasgow G1 2PP

PART 5 AUTHORISED UNIT TRUST SCHEMES

Group and/or name and address of management company	Name of scheme	Name and address of trustee
ADDITIONS		
Chieftain Trust Managers Ltd 30-31 Queen Street London EC4R 1BR	Chieftain American Trust	Midland Bank Trust Co Ltd 27-32 Poultry London EC2P 2BX
Schlesinger Trust Managers Ltd 19 Hanover Square London W1A 1DU	Schlesinger Extra Income Trust	Midland Bank Trust Co Ltd 27-32 Poultry London EC2P 2BX

CHANGES

The following change has taken place in the entry for 'Henderson Unit Trust Management Ltd' in the 'Scheme' column:

DELETE
Henderson Gross Fund

AND REPLACE BY
Henderson North American Gross Fund

The following change has taken place in the entry for 'Britannia Trust Management Ltd' in the 'Scheme' column:

DELETE
Britannia General Fund

AND REPLACE BY
Britannia Universal Energy Trust

REVOCATION

By agreement with the managers and the trustee the order of authorisation for the following scheme which has not been launched has been revoked:
Schlesinger Exempt Fund

shore. The government for its part is ready to offer advice to any Scottish companies interested in these opportunities. Both the committee and the government in its commentary recognise the financial risks involved.

The committee also draws attention to the scope for export to offshore markets beyond the North Sea. It stresses the need for careful preparation of the ground before seeking to penetrate overseas markets with newly acquired Scottish skills, possibly through joint ventures with overseas firms. The government's Offshore Supplies Office and the Overseas Project Group of the Department of Trade are at present engaged in identifying suitable opportunities.

Gaps in the coverage of Scottish industry are also identified including the British Steel Corporation's role in North Sea developments. In a commentary by the BSC the corporation points out that the committee's comments have been met by the recently announced decision to invest £8.5 million in Hartlepool to produce submarine pipe for use in the North Sea, as well as other investments in steelmaking capacity at Bellshill and Coatbridge.

While focusing attention on what opportunities still remain, the committee also welcomes the already substantial involvement of Scottish industry in North Sea developments. The latest government estimates suggest for example that 56,000 to 65,000 people are employed in Scotland directly or indirectly as a result of North Sea oil developments.

Major hotel and catering event

Next Tuesday sees the opening of the largest trade hotel and catering exhibition held in the north of England for many years. It is sponsored by the Manchester Chamber of Commerce and Industry's hotel and catering trades committee. The exhibition is being staged at the New Century Hall, Manchester, from 17 to 19 May.

There are well over 60 companies showing and with many exhibitors sharing stands with either manufacturers who they represent, or suppliers who will be showing with their main agents, wholesalers or manufacturers, some 150 firms will be involved with thousands of items to be seen.

Investing in tourism

In relation to the size of England's tourism industry, one of the few growth areas in the country's economy, the amount of public money provided was comparatively modest, said Sir Mark Henig, chairman of the English Tourist Board. He was speaking at the launch of 'Investing in Tourism', a publication of his board which examines the aid given to tourist projects in the English development areas.

From 1971 to the end of 1976, the period covered by the report, ETB has assisted more than 500 individual projects at a cost of some £5 million, which has stimulated more than treble that amount of investment from other, mainly private, sources. Nearly half of that money has been spent on 'attractions' and the rest on providing accommodation and other amenities.

Tourist projects assisted include an aero park and a china clay museum in the west country; a restaurant in a kipper curing yard and a music hall museum in Northumbria; a miniature steam railway and an old watermill in Cumbria; purchase of boats for sea angling trips at Whitby and cycles for holidays in the Yorkshire Dales, and two theatres in Liverpool. Aid provided by the board has been helping to create new jobs, at an average cost to public funds over the five-year period, of £2,800 per job – less than half of that needed in manufacturing industry. It is also helping to revitalise local economies and arrest rural depopulation.

Merger references laid aside

Provident Financial Group Ltd and Cattle's (Holdings) Ltd
Sketchley Ltd and Johnson Group Cleaners Ltd
Associated Engineering Ltd and Serck Ltd

Since the proposed acquisitions by Provident of Cattle's, Sketchley of Johnson and Associated Engineering of Serck have now been abandoned, the Department of Prices and Consumer Protection has given consent to the Monopolies and Mergers Commission to lay aside the merger references relating to these proposed acquisitions. The Provident/Cattle's reference was made on 18 February 1977, and the Associated Engineering/Serck and Sketchley/Johnson references were both made on 15 March 1977.

Clearance of merger proposal

Roy Hattersley, Secretary of State for Prices and Consumer Protection, has decided, on the information at present before him, not to refer the proposed merger between Wedgwood Ltd and SPR Investments Ltd to the Monopolies and Mergers Commission under the provisions of the Fair Trading Act 1973.

Patents endorsed 'licences of right'

Under section 35 of the Patents Act 1949, the following patents were endorsed 'licences of right' on the dates specified.

27 April 1977

1042844 Standard Telephones and Cables Ltd
Improvements in or relating to electrical equipment
1218052 Standard Telephones and Cables Ltd
Improvements relating to securing an electrical connector in a mounting panel
1358029 Standard Telephones and Cables Ltd
Radio receivers
1368879 Standard Telephones and Cables Ltd
Waveguide antenna
1395648 Standard Telephones and Cables Ltd
Diamond synthesis
1407710 Standard Telephones and Cables Ltd
Electrical contact rivet
1418959 Standard Telephones and Cables Ltd
Electrical circuit unit
1423647 Standard Telephones and Cables Ltd
Error detection in digital transmission systems
1373480 International Standard Electric Corporation
Signal generator
1385266 International Standard Electric Corporation
Line repeater
1433022 International Standard Electric Corporation
Directive antenna arrays
1401906 ITT Industries Inc
Monolithic integrated series voltage stabilisation circuit
1296878 Regie Nationale Des Usines Renault and Automobiles Peugeot
Improvements in devices for spraying lubricant, etc, on to the shaping tools of recurrent-cycle machines during the operation thereof
1315364 Regie Nationale Des Usines Renault and Automobile Peugeot
Improvements in or relating to automotive vehicles
1316584 Regie Nationale Des Usines Renault and Automobile Peugeot
Improvements in methods and means for finishing gear teeth by rolling
1321996 Regie Nationale Des Usines Renault and Automobiles Peugeot
Improvements in or relating to a method and a machine for cutting gear teeth
1184945 Regie Nationale Des Usines Renault
Improvements in rear seats for automotive vehicles
1303170 Regie Nationale Des Usines Renault
Improvements in milling cutters with detachable blades
1307674 EMI Ltd
Improvements relating to mooring devices
1428122 EMI Ltd
Improvements relating to electron discharge devices having proximity focus
1347188 United States Energy Research and Development Administration
Electrooptic light scattering device and method
1370464 Delva and Company
A grab for use in a rig for excavating holes in which piles may be subsequently constructed
1377456 Societe Anonyme Automobiles Citroen
Improvements in or relating to a control device for vehicle doors and other members
1385416 Chan-Hue Yeh
Electronic data processing of Chinese characters
1389004 PJT Engineering Co Ltd
Improvements in or relating to covers
1459749 Alfred Pitner
Improvements in or relating to radial rolling bearings

3 May 1977

1202246 Maschinenfabrik Koppern GmbH and Co KG
Improved hydraulic reciprocating motor
1227560 Maschinenfabrik Koppern GmbH and Co KG
Improvements in or relating to reciprocatable hydraulic motors
1275214 Maschinenfabrik Koppern GmbH and Co KG
Oscillator circuits with fluidic elements
1097728 Dionys Hofmann GmbH
Apparatus for measuring the power of motor vehicles
1306083 EMI Ltd
Improvements in or relating to remote control and energisation circuits for television cameras
1307677 Matterson Ltd
Adjustable hoist trolley
1352312 Sundown Quilts Ltd
An improved bed cover
1413590 International Standard Electric Corporation
Call queueing circuit for an automatic telephone switching system
1424043 Gabriel Ruget
Improvements in or relating to tyres for vehicle wheels
1435911 Gnome Photographic Products Ltd
Improvements relating to slide transfer members for optical projectors

Any person who claims that the patentee at the time of endorsement of any of the above patents was precluded by a contract in which claimant is interested from granting licences under the patents may apply for cancellation of the endorsement on patents form no 45 within two months after the date of endorsement. E. Armitage, Comptroller

Iron casting energy saving

Energy savings in the iron casting industry worth at least £15 million a year at present energy prices are possible within 15 to 20 years, according to a report issued by the Department of Energy and the Department of Industry. The report is the first to deal with a series of energy audits of selected, energy-intensive industrial processes which are being sponsored by the two departments.

The iron casting industry accounts for some two per cent of the UK's primary energy consumption – equivalent to nearly six million tons of coal a year. The savings could come partly by the wider adoption of existing technologies and – in the longer term – through research and development into the recovery of waste heat. Attention is drawn to the high energy cost of foundry returns and the report says that a ten per cent reduction could save £4½ million a year.

Although there is some potential conflict between the need for energy saving and the need to reduce environmental pollution, the increase in energy use resulting from the introduction of environmental measures is shown to be less than 250,000 tons of coal equivalent a year and there are ways of reducing this figure. The report recommends 15 ways in which energy consumption can be reduced.

The studies are conducted by the Energy Technology Support Unit at Harwell and the Energy Unit at the National Physical Laboratory. Industrial research associations and energy consultants are also involved. The work is carried out under the auspices of SLICE (studies leading to industrial conservation of energy) – a technical steering group. The aim is to establish how much energy is being absorbed in manufacturing processes, in products and in the materials and components from which the products are formed.

Energy Audit Series No. 1 – Iron Casting Industry. Available free from the Library, Department of Energy, Thames House South, Millbank, London SW1P 4QJ.

NCT president

Mildred Head, is the new president of the National Chamber of Trade. Miss Head is also a member of the Council of the Retail Consortium, a member of the Price Commission and a member of the Economic Development Committee for the Distributive Trades.

'T & I' index inquiries

Readers wanting to know when articles and items of information were published in *Trade and Industry* should consult the published indexes which are issued free to subscribers. For material published in recent months, inquiries of this kind can be made to the Department of Industry Library's indexing section, tel. 01-215 5842. (Alternative no 01-215 5051.)

Coal switched to rail

A grant of £193,500 is to be paid by the Department of Transport to the National Coal Board towards the £456,828 cost of providing rail freight facilities at its Tilmanstone, Kent colliery. Susbtantial tonnages of coal will be transferred to rail and this will bring significant environmental benefits to Kent, London and the north-east. Section 8 of the Railways Act 1974 enables the Secretary of State for Transport to provide assistance towards the cost of rail facilities for loading and unloading freight where it can be shown that a locality or its inhabitants would benefit significantly.

Up to 3,000 tons of coal a week have had to be moved from the colliery by lorry because the old rail arrangements could not cope with the pit's total output, and that caused difficulties with local residents. Now the coal board can switch the entire production from Tilmanstone, amounting to 500,000 tons a year, to rail. A forward loading shovel and an electronic weigh-bridge that weighs wagons on the move are included in the new equipment. Batches of wagons can be loaded in 30 minutes – very much faster than before. The coal is coking quality, and much of it goes to the north to coke ovens and for steelmaking.

Lesson of the energy crisis

'The lesson of the "energy crisis" has implications far beyond the energy field alone, and if we are not to be confronted by similar crises in the future it is vital that we take stock now of all our mineral resources.' This was the main theme in the opening remarks of a two-day international energy conference, before an audience of more than 150 people, by Alex Eadie, Parliamentary Under Secretary at the Department of Energy. Organised by the Association of Mining Electrical and Mechanical Engineers, the conference was held at Handforth, Cheshire.

Stressing that Britain is an island built on coal which still supplies a third of her energy needs, Mr Eadie said that the north-west has long been in the forefront of mining innovation. The design, manufacture and maintenance of equipment for the exacting duties of modern mining was no mean task, he said, and it was essential to have a very high degree of mechanical and electrical reliability, a challenge for the future which the minister was confident would be taken up willingly by the association's members.

Degree day service: figures for April 1977

Degree day figures for April, published by the Department of Energy, are shown below. This service is designed to help industry and commerce improve the efficiency with which space heating systems are used.

The figures are a record of the extent and length of time in a particular month that the external temperature fell below a base figure of 15.5 degrees C (60 degrees F). Because this affects the amount of fuel needed to provide a given level of space heating the figures can be used to check on the efficiency of heating systems. By comparing the amount of fuel used with the number of degree days in monthly periods of different years, energy managers and others can monitor the performance of heating plant and operate it more economically.

Detailed information about the system is contained in a free booklet, 'Degree Days' (No. 7 in the Fuel Efficiency series) available from the Library, Department of Energy, Thames House South, Millbank, London SW1P 4QJ, tel. 01-211 3394. It explains the theory and practice of using the figures and contains a map showing the locations of the 17 Meteorological Office stations and the regions covered.

APRIL DEGREE DAYS (BASE TEMPERATURE 15.5 DEGREES C)

Region	Calculated average for April 1957/76	April 1976	April 1977
Thames Valley	197	197	219
South Eastern	224	229	255
Southern	214	229	239
South Western	197	210	225
Severn Valley	209	213	228
Midland	233	237	253
West Pennines	222	220	252
North Western	239	229	254
Borders	259	256	258
North Eastern	234	244	244
East Pennines	217	224	224
East Anglia	232	228	245
West Scotland	235	226	261
East Scotland	252	242	265
North East Scotland	270	244	291
Wales	228	242	256
Northern Ireland	237	223	265

Regional development grant payments

Companies which have received one or more payments of regional development grant of over £25,000 in the quarter ended 31 March 1977* are shown below. The table is drawn up on a regional basis according to the location of the premises in respect of which the grants were paid.

Name of company and location	Grant (£'000)
SOUTH WEST	
Compair Construction and Mining Ltd, Camborne	34
Cornwall Tin and Mining Ltd, Truro	36
English Clays Lovering Pochin and Co Ltd, St Austell	94
Express Dairy Foods Ltd, North Tawton	30
Plessey Components Ltd, Plymouth	37
Public Works (Bristol) Ltd, Bristol 'S'	53
Unigate Foods Ltd, Torrington	95
Western Fish Products Ltd, Penzance	60
EAST MIDLANDS	
Euroway Knitting Factory Ltd, Somercoates	43
Parker Timber (Northern) Ltd, Pinxton	38
YORKSHIRE AND HUMBERSIDE	
Amoco (UK) Exploration Co, Easington	28
Birstall Carpet Co Ltd, Birstall, Batley	38
British Steel Corporation, Rotherham	348
British Steel Corporation, Scunthorpe	382
British Steel Corporation, Sheffield	981
British Sugar Corporation Ltd, York	140
Bunzl Adhesive Materials Ltd, Scarborough	104
Capper Pass Ltd, North Ferriby	31
Ciba-Geigy Chemicals Ltd, Grimsby	82
Co-operative Wholesale Society Ltd, Worksop	90
Courtaulds Ltd, Grimsby	42
Firth Brown Ltd, Sheffield	33
Fisons Ltd, Immingham	35
Gas Council (Exploration) Ltd, Hull	64
Hawker Siddeley Aviation Ltd, Brough	83
Henry Williamson Ltd, Brough	30
J. Marr (Fish Merchants) Ltd, Hull	27
Lytag Ltd, Goole	26
Mining Supplies Ltd, Doncaster	36
Nypro (UK) Ltd, Scunthorpe	113
Sheffield Smelting Co Ltd, Sheffield	38
Unbrako Steel Co Ltd, Sheffield	34
NORTH WEST	
Albright and Wilson Ltd, Widnes	113
Associated Biscuits Ltd, Liverpool	31
Associated Biscuits Ltd, Liverpool	47
Associated Octel Co (Plant) Ltd, Ellesmere Port	302
B and S Proteins Ltd, Liverpool	26
Bass Ltd, Runcorn	479
BICC Ltd, Liverpool	33
Bootle Steelstock Ltd, Liverpool	28
Bowaters UK Paper Co Ltd, Ellesmere Port	44
Britannia Refining Co Ltd, Birkenhead	27
British Nuclear Fuels Ltd, Chester	308
British Nuclear Fuels Ltd, Preston	42
British Rail Engineering Ltd, Horwich	90
Burmah Oil Trading Ltd, Ellesmere Port	201
Burnley Engineering Products Ltd, Burnley	29
Cabot Carbon Ltd, Dukinfield	63
Cabot Carbon Ltd, Ellesmere Port	138
Cammell Laird Shipbuilders Ltd, Birkenhead	224
Carlson Ford Ltd, Ashton-under-Lyne	27
Champion Associated Weavers Ltd, Padiham	47
Chloride Technical Ltd, Manchester	74
Computer Leasings Ltd, Liverpool	28
Continental (London) Ltd, Liverpool	160
Courtaulds Ltd, Liverpool	64
Crown Decorative Products Ltd, Darwen	65
Dobson Park Properties Ltd, Wigan	28
E. Murphy and Sons (Liverpool) Ltd, Liverpool 'S'	27
Eric Bemrose Ltd, Liverpool	31
Evans Medical Ltd, Liverpool	56
Fibreglass Ltd, St Helens	61
Fisons Ltd, Widnes	38
Fodens Ltd, Sandbach	31
Ford Motor Co Ltd, Liverpool	438
GEC Power Engineering Ltd, Manchester	56
Geo L. Scott and Co Ltd, Ellesmere Port	30
Girling Ltd, Bromborough	27
Hawker-Siddeley Aviation Ltd, Manchester	38
Heaton Mills Printing Co Ltd, Manchester	42
Henry Boot Engineering Ltd, Dronfield	41
Holman Michell and Co Ltd, St Helens	54
Hy-Ten Reinforcement Co Ltd, Liverpool	70
Imperial Chemical Industries Ltd, Macclesfield	104
Imperial Chemical Industries Ltd, Northwich	50
Imperial Chemical Industries Ltd, Runcorn	307
Imperial Chemical Industries Ltd, Widnes	70
Imperial Group Ltd, Liverpool	57
J. Bibby and Sons Ltd, Liverpool	31
Laporte Industries Ltd, Widnes	35
Lever Brothers Ltd, Port Sunlight	91
Lilly Industries Ltd, Liverpool	26
Lombard North Central Leasing Ltd, Ince, Chester	282
Manchester Steel Ltd, Manchester	78
Metal Box Ltd, Liverpool	145
Milk Marketing Board, Preston	42
Nash Engineering Co (Great Britain) Ltd, Winsford	39
National Coal Board, St Helens	119
Pilkington Brothers Ltd, St Helens	501
Plessey Telecommunications Ltd, Liverpool	153
Plessey Telecommunications Ltd, Liverpool	188
R. C. Walmsley Ltd, Liverpool	27
Rockware Glass Ltd, St Helens	33
Rolls-Royce Motors Ltd, Crewe	63
Shell Chemicals UK Ltd, Ellesmere Port	755
Shell Research Ltd, Ince, Chester	132
Smith and Nephew Textiles Ltd, Rawtenstall	30
Synthetic Resins Ltd, Liverpool	30
T. I. Chesterfield Ltd, Chesterfield	45
Tillotsons (Liverpool) Ltd, Liverpool	165
Turner and Newall Ltd, Widnes	62
United Biscuits Ltd, Liverpool	40
UKF Fertilisers Ltd, Ince, Chester	58
Urenco UK Partnership, Wirral	755
Valor Newholme Ltd, Liverpool	33
Van Den Berghs and Jurgens Ltd, Bromborough	70
Viota Foods Ltd, Bromborough	25
Ward Blenkinsop and Co Ltd, Widnes	60
NORTHERN	
Abrahams and Co (Birmingham) Ltd, Gateshead	32
A. F. Budge (Plant) Ltd, Esh Winning	73
A. F. Budge Ltd, Quebec Durham	84
Alan Hughes and Son (Doncaster) Ltd, 'S'	40
Albright and Wilson Ltd, Whitehaven	362
Alcan (UK) Ltd, Ashington	322
Allen-Bradley Electronics Ltd, Jarrow	36
Amoco Ltd, Consett	43
Armstrong Cork Co Ltd, Stockton	347
Associated Dairies Ltd, Newcastle	35
Associated Electrical Industries Ltd, Birtley	131
Austin and Pickersgill Ltd, Sunderland	856
Batchelor Robinson Metals and Chemicals Ltd, Hartlepool	53
Birtley Manufacturing Ltd, Newcastle upon Tyne	66
Black and Decker Ltd, Spennymoor	94
Bowmaker Leasing Ltd, 'S'	93
BP Trading Ltd, Middlesbrough	456
British Chrome and Chemicals Ltd, Stockton	93
British Nuclear Fuels Ltd, Windscale	989
British Rail Engineering Ltd, Shildon	102
British Steel Corporation, Consett	291
British Steel Corporation, Hartlepool	34
British Steel Corporation, Middlesbrough	2,174
British Steel Corporation, Redcar	3,897
British Steel Corporation, Workington	196
BTP Tioxide Ltd, Greatham	167
Charles Churchill Ltd, Blaydon/Tyne	32
Cigarette Components Ltd, Jarrow	95
Cleveland Potash Ltd, Saltburn-by-Sea	392
Cummins Engine Co Ltd, Darlington	285
Darlington and Simpson Rolling Mills Ltd, Darlington	64
Davy Roll Co Ltd, Gateshead	233
Derek Crouch (Contractors) Ltd, Morpeth	136
Dunlop Ltd, Gateshead	73
Electrolux Ltd, Darlington	35
Expanded Metal Co Ltd, Hartlepool	27
Fewsters (Plant Services) Ltd, 'S'	34
First National Bank of Chicago, 'S'	80
Formica Ltd, North Shields	42
General Electric Co Ltd, Hartlepool	45
George Angus and Co Ltd, Wallsend	28
Gibbons Northern Brick Ltd, Newburn-on-Tyne	102
Gibbons Northern Brick Ltd, Throckley	52
Glaxo Laboratories Ltd, Ulverston	91
Glaxo Properties Ltd, Ulverston	77
Greenham (Plant Hire) Ltd, 'S'	105
Head Wrightson (Steelcast) Ltd, Billingham	26
Head Wrightson Teesdale Ltd, Stockton	34
Henry Cooke Ltd, Milnthorpe	51
H. J. Rorke Ltd, Brandon	124
Imperial Chemical Industries Ltd, Billingham	1,462
Imperial Chemical Industries Ltd, Middlesbrough	702
Imperial Chemical Industries Ltd, Middlesbrough	1,903
Imperial Group Ltd, Newcastle upon Tyne	41
IMS Lycrete Ltd, Workington	52
Liner Concrete Machinery Co Ltd, Gateshead	86
Lombard North Central Ltd, North Shields	25
Lomount Construction Ltd, Crook	121
Mercantile Leasing Co Ltd, Cramlington	116
Metal Box Ltd, Carlisle	130
Milk Marketing Board, Carlisle	182
Milk Marketing Board, Kendal	199
Monsanto Ltd, Middlesbrough	2,659
Mullard Ltd, Belmont	55
National Coal Board, Lynemouth, nr Ashington	48
National Coal Board, Ashington	34
National Coal Board, Hartlepool	27
National Coal Board, Hetton le Hole	45
National Coal Board, Horden	216
National Coal Board, Seaham	85
National Coal Board, Sunderland	239
National Coal Board, Wakefield	37
Nestle Co Ltd, Dalston	30
Norpipe Petroleum UK Ltd, Billingham	3,404
Norsea Pipeline Ltd, Billingham	4,556
Northern Clubs Federation Brewery Ltd, Dunstan	226
Northern Clubs Federation Brewery Ltd, Gateshead	112
NSK Bearings Europe Ltd, Peterlee	758
Peterlee Development Corporation, Peterlee	32
Polyamide Intermediates Ltd, Middlesbrough	675
Raynesway Plant Ltd, 'S'	81
Reyrolle Parsons Ltd, Hebburn	25
RHM Foods Ltd, Hartlepool	39
Robinson and Hannon Ltd, Blaydon-upon-Tyne	26
Robinson Brothers Ltd, Blyth	35
Rocton Equipment Ltd, Quebec Durham	130
Rocton Mining Ltd, Quebec Durham	70
Rohm and Haas (UK) Ltd, Jarrow	29
Rohm and Haas (UK) Ltd, Middlesbrough	59
Rotaprint Ltd, Washington	26
Seymour Plant (Northern) Ltd, 'S'	69
Sharfinch Ltd, 'S'	65
Shell UK Ltd, Middlesbrough	225
Shepherd Hill Co Ltd, 'S'	142
Shepherd Hill Co Ltd, Consett	41
Shepherd Hill and Co Ltd, Maryport	114
Smart and Brown Engineers Ltd, Spennymoor	34
Spartan Redheugh Ltd, Gateshead	105
Steetley (Mfg) Ltd, Ferryhill	34
Steetley (Mfg) Ltd, Hartlepool	82
Strathclyde Leasing, Peterlee	48
Sunderland Shipbuilders Ltd, Sunderland	30
Swan Hunter Shipbuilders Ltd, Wallsend	50
Taylor Woodrow Plant Co Ltd, Morpeth	333
Thermal Syndicate Ltd, Wallsend	38
Thyssen (GB) Ltd, 'S'	65
T. J. Thomson and Son Ltd, Stockton	132
Tyneside Printers Ltd, Newcastle on Tyne	42
Vald Birn (UK) Ltd, Bedlington	44
Vickers Shipbuilding Group Ltd, Barrow-in-Furness	93
Welders and Compressors Ltd, 'S'	51
W. R. Anderton and Co Ltd, Cark	29
W. Richards and Sons Ltd, Middlesbrough	30
WALES	
Aberthaw and Bristol Channel Portland Cement Co Ltd, Barry	50
Alun Griffiths (Contractors) Ltd, Abergavenny	40
Beal and Son Ltd, Cardiff	53
Birds Shredded Products Ltd, Cardiff	89
BP Chemicals, Port Talbot	617
BP Oil Llandarcy Refinery Ltd, Neath	250
BP Trading Ltd, Port Talbot	2,028
BP Trading Ltd, Sully	253
BP Trading Ltd, Swansea	81
British Leyland UK Ltd, Pengam	116
British Steel Corporation, Deeside	313
British Steel Corporation, Ebbw Vale	686
British Steel Corporation, Newport	26
British Steel Corporation, Port Talbot	2,982
Brymbo Steel Works, Wrexham	776
Cambrian Castings, Aberdare	27
Cantic Components Ltd, Caerphilly	32
Computer Leasings Ltd, Port Talbot	31
Cwmbran Development Corporation, Cwmbran	28
Derek Crouch Contractors Ltd, Llanharan	32
Duport Steel Works Ltd, Llanelli	151
Esso Petroleum Co Ltd, Milford Haven	30
Fibreglass Ltd, Cwmbran	1,485
George Wimpey and Co Ltd, Aberdare	43
George Wimpey and Co Ltd, Cardiff	28
GKN South Wales Ltd, Cardiff	282
Helliwells Ltd, Aberdare	31
Hymac Ltd, Rhymney	87
Imperial Chemical Industries Ltd, Pontypool	163
Inco Europe Ltd, Swansea	298
Kellogg Company of Great Britain Ltd, Wrexham	40
Lehane MacKenzie and Shand Ltd, Aberdare	33
Lehane MacKenzie and Shand Ltd, Bridgend	106
Lucas Trading Ltd, Pontypool	84
Metal Box Ltd, Neath	43
Metal Box Ltd, Wrexham	46
National Coal Board, Abersychan	61
National Coal Board, Bedwas	38
National Coal Board, Cowbridge	38
National Coal Board, Maerdy Rhondda	55
National Coal Board, Maesteg	48
National Coal Board, Neath	57
National Coal Board, Oakdale Gwent	27
National Coal Board, Onllwyn	26
National Coal Board, Pontardulais	88
National Coal Board, Treharris	132
National Coal Board, Ynysybwl	46
NIPA Laboratories Ltd, Pontypridd	64
Parke Davis and Co, Pontypool	31
P. Leiner and Sons (Wales) Ltd, Pontypridd	238
Plessey Co Ltd, Newport	82
Shell UK Ltd, Anglesey	389
Sir Lindsay Parkinson, Gwaun Cae Gurwen	227
Star Wrought Products Ltd, Neath	28
Taylor Woodrow Plant Co Ltd, Dowlais	282
West Wales Plant Hire Co Ltd, Llandeilo	38

* A list of payments made in the quarter ended 31 December 1976 appeared in *Trade and Industry* dated 4 February 1977 and information concerning the dates of publication of earlier lists appeared in *Trade and Industry* dated 5 November 1976.

Publications

Export Made Simple, by Henry Deschampsneufs. (242 pages. W. H. Allen. 1977. Cloth: £2.95. ISBN 0 491 01908 4. Paper: £1.75. ISBN 0 491 01918 1.) Written by an authoritative and prolific author in the field of exporting, this work is primarily designed to cater for the requirements of the British Overseas Trade Board national foundation course in export. It is also suitable as a text for the examinations offered by such bodies as the Institutes of Marketing, Export, Freight Forwarders, and the Society of Shipping Executives. In addition, this latest book in the *Made Simple series* will serve as a guide to all those concerned with export education, combining, as it does, the topics of both export practice and export marketing. Its comprehensive coverage will also make it an up-to-date reference tool for businessmen and others engaged in the practice of exporting.

The text is divided into three main parts: international trade; export practice; and export marketing. Within each of these three broad subject areas, chapters explore specific aspects of the subject in detail. Part one, international trade, deals with trade from both the world and national points of view, using the UK as an example of an exporting nation. Part two covers pricing, quotations, orders, office organisation, transport, documentation, insurance, payments and finance, as well as the legal aspects of export practice. The third part is devoted to export marketing.

Each chapter contains both revision outlines and exercises designed to stretch the reader's mind into venturing further in the particular topic discussed. Appendix one reproduces 32 export documents currently in use in the export trade of the UK. The second and final appendix is a thorough selection of books for further study, arranged under the same part and chapter headings as in the main body of the text.

Industry Act 1975, by Thomas Sharpe. (130 pages. Butterworths. 1976. £8.00. ISBN 0 406 54753 x.) The Industry Act of 1975 marks the latest of several experiments designed to bring government influence to bear more closely on companies, without necessarily taking the enterprises into public ownership or risking the lack of control implicit in investment and regional incentives. This volume provides a detailed guide both to the legislative and industrial context of the evolution of the act as well as a full and analytical investigation into the provisions of the legislation itself. The Industry Act 1975 came into force on the 20 November 1975, with the promulgation of the *Industry Act (Commencement) Order 1975 SI No 1881*, and this volume discusses the legislation as of that date, although the author's manuscript was completed in September 1976.

Chapter one is by way of an introduction in which the legislative and political landmarks in the years preceding the 1975 act are discussed. Thus this introduction centres mainly around the Industrial Reorganisation Corporation Act 1966, the Industrial Expansion Act 1968 and the Industry Act 1972, together with their concomitant institutions – the Industrial Reorganisation Corporation and the Industrial Development Advisory Board.

Chapter two comprises an in-depth survey of the main corporate body resulting from the 1975 act – the National Enterprise Board.

The historical context of the Industry Act is again discussed in chapter three, under the heading of selective financial assistance to industry. This chapter concentrates largely on the 1972 act and the innovative relationships which evolved between government and industry. Planning agreements, within the terms of the 1975 act, are analsyed in chapter five. Areas covered consist of the contents of an agreement, the government's contribution, the role of the NEB and the authors thoughts on section 21 of the act.

The final chapter of this study surveys the disclosure provisions of the act, by describing and commenting on the relevant sections of this complex aspect in the legislation. The Industry Act itself is then reproduced in full and this is followed by an appendix which itemises NEB investments as at 31 August 1976. A full relative index completes the volume.

Chemifacts Scandinavia: Denmark, Finland, Norway, Sweden. (130 pages. Chemical Data Services. IPC Industrial Press Ltd, Dorset House, Stamford Street, London SE1 9LU. 1st edition 1977. £35.00.) This is the third in the series of *Chemifacts* surveys published in the past few months. The first dealt with the chemical industries of eastern Europe and was reviewed in *Trade and Industry* on 14 January, 1977, page 102. The preface consists of a country-by-country introductory background to the relevant chemical industry, in which a tabulation showing the value of chemical trade by divisions of SITC for 1974 – 75 quantifies the information for each country.

Section one of the main body of the volume is an alphabetical series of chemical product profiles. These include 17 inorganic chemicals, 23 organic chemicals, four fertilisers and eight polymers. Each profile includes a product description, with the product term given in French, German, Italian and Spanish. This is followed by data on market trends in production, imports and exports for the years 1970-75, together with trade breakdowns for 1974-75 – and all of this is presented on an individual country basis.

Section two, also arranged under country headings, lists all of the companies named in section one. The information incorporated into these chemical company profiles includes company addresses, directorate, historical outline and present-day structure, manufacturing activities, number of employees, financial data, domestic and foreign subsidiaries and details of ownership. A company index, complete with products, allows for cross-referencing and concludes the volume.

Government sales

Ministry of Defence

Sales by auction

17 May 1977—Furniture

Location
RAF West Drayton, Middlesex UB7 9AU

Auctioneers
Fuller Horsey Sons and Cassell (Dept. L), 52 Bow Lane, London EC4M 9ET (tel. 01-248 7954)

A sale of some 600 lots of household furniture and other household effects which will be lotted as single items or in small quantities.

26 May 1977—Miscellaneous stores

Location
The Golden Lion Hotel, King Street, Stirling

Auctioneers
Dixon and Wallace (Dept. L), Bank Buildings, Graham Square, Glasgow G31 1AW (tel. 041-554 2447)

The stores are lying at various depots in Scotland and include vehicles, various items of plant and machine tools, generators and other engineering stores. A large collection of service clothing and textiles, furniture and many other interesting items.

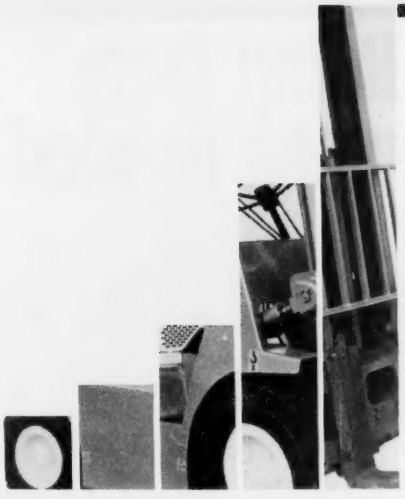
31 May 1977—Miscellaneous stores

Location
Ordnance Storage and Disposal Depot RAOC, Ruddington, Notts

Auctioneers
Arnold and Son, 'Modwena House' (Dept. L), 13 Market Place, Burton-upon-Trent, Staffs DE14 1HD (tel. 0283 64657)

The stores which are lying at various depots include Whirlwind helicopter spares, aircraft and engine spares, MT spares and tyres, machine and hand tools, electrical and electronic equipments, household and office furniture, watches, binoculars, cameras and many other items.

Catalogues which give details of the lots, conditions of sale, viewing times, etc, are available from the auctioneers from two weeks before and up to the day of the sale, price 20p, postage and packing 10p extra (postal orders only).



Moving it: materials and mechanical handling

Growth target

Mechanical handling is a key industry in the government's industrial strategy. John Paul of the Department of Industry's Minerals, Metals, Electrical Engineering, Process Plant and Industrial Technologies (MEPT) Division describes the industry and its objectives for future growth.

Conveyors, aerial ropeways, stackers, non-mobile cranes, transporters, lifts, escalators, and lifting and winding devices are among the wide range of products manufactured by the United Kingdom mechanical handling equipment industry, together with industrial trucks and tractors which includes forklift trucks, rough-terrain trucks, side loaders and straddle carriers. It is the industry defined by minimum list heading 337 in the UK industrial classification. The industry can also provide complete systems such as ship grain unloaders and stores, and automated warehouses.

There were just over 200 enterprises employing 25 or more people in the mechanical handling industry in 1975, the latest year for which these figures are available. In that year the industry had a turnover of nearly £600 million. Exports in 1976, however, amounted to just under £200 million, giving a balance of payments of some £90 million. The industry employs about 57,000 people.

The industry is sufficiently important in the government's industrial strategy to warrant two EDC sector working parties, one for the mechanical engineering – mechanical handling equipment sector and one for the mechanical engineering – industrial trucks sector. In addition mobile cranes are included in the sector working party for construction equipment and mobile cranes. Interim reports on their work up to the end of 1976 have been prepared by both these mechanical engineering working parties, upon which management, unions and government are represented. The reports, which are to be published, concentrate on the scope for improving each sector's share of home and export markets and set quantified medium-term objectives as part of the ongoing programmes.

The objectives adopted by the mechanical handling sector working party are to increase the annual turnover from the 1975 level of £377 million to £400 million in 1980 and exports, similarly, from £80 million to £128 million. Import penetration is to be reduced from 16 per cent in 1975 to 14 per cent by 1980. For the industrial truck sector working party, the target increase in turnover is from 1975's £213 million to between £353 million and £265 million in 1980 and, in exports, the aim is for an improvement from £84 million in 1975 to between £180 million and £135 million in 1980, both depending on market conditions. A reduction in the import penetration ratio from 22 per cent in 1975 to a 1980 figure of 20 per cent is being sought. All the 1980 projections are at 1975 prices. The overall objective, using the higher targets for industrial trucks, is for a gain in the balance of trade of £140 million.

For the industry to achieve these objectives, the working parties recognise that, among other things, improved productive efficiency and more effective marketing will be required. They are therefore considering the implications of their objectives to see what constraints might prevent the targets being achieved and what actions can be taken to remove any such obstacles. Special attention is being given by the working parties to the problem of how their recommendations can best be communicated to everybody in the individual companies of the industry, an essential feature in achieving the objectives of the strategy.

In addition to the government taking an active part in the work of the sector working parties, its sponsorship activities act as a focus for the interchange between government and industry. A wide range of facilities and assistance is available to industry. These include such items as assistance in investigating new export markets, overseas exhibitions and missions, provision of Export Credit Guarantee Department cover and assistance through investment schemes. Several companies in the mechanical handling equipment industry are being helped to bring forward projects by means of the accelerated investment scheme. With the object of improving the company's capacity and productivity the scheme, although now closed, is proving very successful. The preliminary response to the recently introduced selective investment scheme is encouraging.

An attitude of mind

Alan Martin, secretary of the Department of Industry's Committee for Materials Handling, focuses attention on management involvement in material handling systems.

Materials handling is intimately tied up with both attitudes of mind and problem-solving. On the latter there are two distinct lines of development. At the 'micro' level is the solution of problems giving rise to the development of particular types of handling equipment for specific tasks, which may be either single-operation or, if more than one, those bearing a fixed relationship to each other, such as operating in a definite sequence. On the 'macro' level is the solution of problems arising from the use requirements for a number of pieces of equipment taken together, taking into account the man-machine and man-man inter-reactions. In other

Moving it

words, problems which arise from the consideration of 'handling' as a system.

It is the latter category which comprises the group of problems most often treated intuitively, simply because they are usually much more difficult to comprehend and certainly are more difficult to analyse, in view of the inter-relationships between the elements. Until comparatively recent times, such problems, especially those arising in a materials handling context, would very likely not have been recognised as being worthy of really detailed study, even had the modern and powerful analytical tools now commonplace then been available.

The influence of attitudes of mind on the development of materials handling immediately focuses attention on management. Materials handling is thus seen to involve both management and technology. Explicit recognition of this is afforded by the title of the Department of Industry's committee covering this subject, the Committee for Materials Handling (Management and Technology). Formed in 1973 under the aegis of the Committee for Industrial Technologies (CFIT), the committee, under the chairmanship of Howard Surtees, managing director of EASAMS Ltd, exists to advise and make recommendations to the Department of Industry on policy and courses of action for the promotion of better materials handling. It aims to alert industry to the profit opportunities which can result from wider application of good materials-handling practices.

Individual industrial organisations are stimulated to quantify and examine of their true materials-handling costs, by demonstrating that these costs can in many cases be significantly reduced*. Industry is being made aware that materials handling is fundamentally about systems, however developed, whose principles and practices not only apply but need to be seen to apply. Industry is also encouraged to recognise that, because of its systems nature, materials handling is a prime management function in the running of manufacturing and distribution operations.

The Committee for Materials Handling (Management and Technology) sees the scope of materials handling as including three main elements: the flow of materials, management and technology. Firstly, the physical problem of the materials flow into, through and away from an enterprise. Secondly, management, in the effective planning, control review and improvement of the movement, handling and storage of materials and documentation. And, finally, the technology of the movement, handling and storage of materials and the associated information systems.

Expressed in this way attention is drawn directly to the areas relevant and important to effective materials handling. The elements form the guidelines by which the committee is developing the programme to achieve its aims. The programme involves the development of information for publicity purposes, the production of books to fill identified gaps in the already extensive literature of materials handling, the generation of education and training modules and units, the promotion of greater co-operation between professional bodies whose interests and knowledge are relevant to materials handling, and the strengthening of co-operation between organisations with expertise in various aspects of materials handling so that they may more readily be able to respond authoritatively to questions from potential users.

The National Materials Handling Centre has been provided, on the recommendation of the committee, with funds by the Department of Industry for a limited period in order to fill this role of responding to industrial inquiries, including providing limited amounts of free advice. There are a number of other centres around the country having, to a greater or lesser extent, some expertise to offer industry in various aspects of the materials-handling field.

Efficient materials handling is the concern of all levels of employment and the committee sees it as crucial to the success of its work that materials-handling operators receive proper training so as to make an effective contribution to the organisation in which they work.

Stemming from the committee's survey of materials-handling costs in the manufacturing industry, a publication is now being prepared in conjunction with the Institute of Cost and Management Accountants, which will show ways in which company's accounting systems may be modified so that the costs of across-department activities such as materials handling may be more readily extracted and presented along with normal accounting information. Unless management is aware of the costs of such activities, they are hardly in a position to take steps to initiate improvements.

Areas for technological application of computers in materials-handling systems include such fields as control of warehousing handling systems, and the associated data handling required, particularly with respect to advanced systems of stock control and reordering. The committee has not forgotten the potential importance of these areas and the Computer Aids to Materials Management Working Party has been set up in order to explore the needs in this field.

* MATERIALS HANDLING COSTS – a new look at manufacture, HMSO price £2.10.

Being there when needed

The National Materials Handling Centre provides an advisory service for industry. John Williams, Director of the Centre, tells of the savings achieved by some companies.

Just over 25 years ago a group of enthusiasts founded the Institute of Materials Handling. They had already recognised the immense importance of materials movement to the national economy and that they were involved in an industry which would have a rapid growth. In 1968 the institute decided to finance a research unit at the Cranfield Institute of Technology and out of this evolved the National Materials Handling Centre, with the additional support of the equipment manufacturers and government.

The need which all these organisations recognised was for a centre which would become the focal point for information and advice. It would be a catalyst accelerating the process of industrial re-organisation. To serve industry effectively it would need to be independent so that its advice could be objective. If industry was to accept its advice it would need to be practical. To maintain its independence and to earn the respect of the industries it served, it would also need to be self-supporting.

The aims of the centre are to assist British industry to improve its materials management and distribution efficiency and to advance and disseminate knowledge of this important part of the national economy. The emphasis is on assisting industry with its problems and it's for this reason that, reacting to industry's requirements, the centre has developed a wide range of industrial services.

Developments are international. The objective of the information service is 'technology transfer', or ensuring that British industry does not re-invent the wheel. It does this through publishing an abstract journal which has world-wide coverage of developments; it has a specialist library and inquiry service.

The advisory service is described as 'being there when we're needed'. The centre's approach to a company's problem is firstly to define the problem, and then to establish what the company needs to do to solve it. It may be that the company's own staff can tackle the problem with a little specialist assistance. The injection of a small amount of external specialist advice at a time when it is required is one of the characteristics of the advisory service. At the other extreme the centre is prepared to accept complete responsibility for

A stock of drums under test for the operator of a refrigerated warehouse.

analysis, design, planning and implementation of a major project.

Rapid growth in trade forced a small company to build additional production facilities on its site. The centre advised the company's architect, during a one-day site visit and subsequent report, on the location of storage and the associated handling storage equipment for the new building. As a direct result, a work-flow orientated layout was introduced, considerable economies in the use of the site and existing buildings were achieved, and improved storage and handling methods were adopted. This enabled manufacturing capacity to be increased by 30 per cent, whilst saving an estimated £12,000 to £15,000 per annum in handling and storage operating costs.

Another company had designed its own handling system. A fundamental aspect of their approach was a fail-safe philosophy which ensured operation of the system even if break-down occurred. The centre's audit of their proposals resulted in system changes which reduced the amount of stand-by equipment required. The savings on capital cost was at least £60,000; NMHC involvement was seven days work at a total cost of £595.

Moving a spare parts warehouse to a new location prompted an engine manufacturing company to question its storage and handling methods. As company policy, it wanted the maximum involvement of its own staff in the development of a new method. The centre advised, at a one-day meeting, on data collection and analysis, and the merits of the various types of storage and handling equipment available. Further meetings with the company's project team, from time to time, enabled the company to design its new warehousing system. The main advantage to the company was the acceptance of the new methods because of the direct involvement of their staff in the design study. This obviously has an effect on implementation costs, and on subsequent operational cost, which is impossible to quantify.

Concern over stock levels and handling problems prompted a company in 'batch' manufacturing to seek NMHC assistance. Detailed study showed the cause of the work-in-progress and stockholding problems to lie in production control. Computer simulation techniques were used to assess the effects of alternative production control and manufacturing strategies on stock levels and batch cycle times. The results showed that finished stocks could be reduced from £90,000 to £58,000 in value, saving £4,500 per annum from reduction of money invested. Further savings of £9,000 per annum could be achieved by introducing improved batch control techniques.

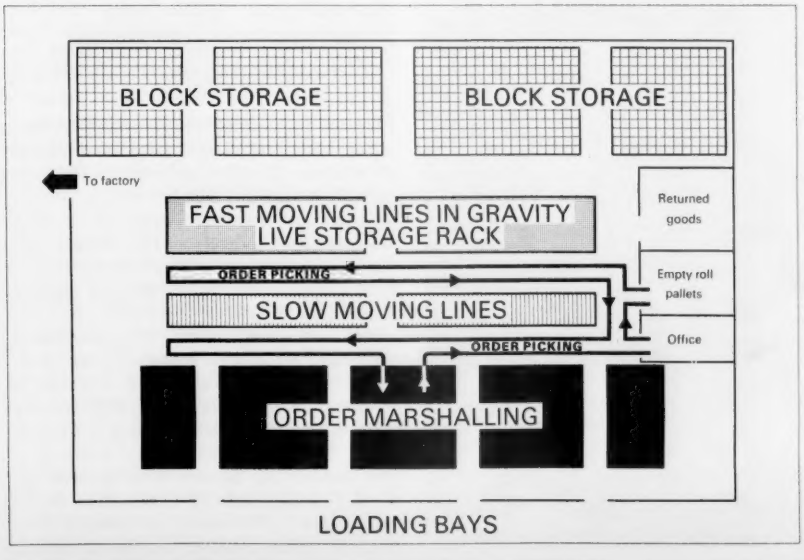
Development in staff training was a natural consequence of the centre's involvement in industrial problems. The need was evident and reflected in the success of the centre's seminar and programme of one-week courses.

Ensuring that inefficiency can be identified and eliminated is an important part of the centre's work. It has built up background knowledge of achievable levels of performance. This it puts to good use by auditing costs and efficiency for distribution and production companies and by making recommendations leading to improvement.

Three types of research can be identified in the centre's work. There is the work carried out under contract and exemplified by the work on operational costs in warehouses and in production for the Department of Industry. Other research involves the testing and evaluating of equipment. Then there is market research developed as a consequence of requests by materials handling equipment manufacturers.

The centre has demonstrated its ability to serve the needs of British industry and to be financially self-supporting. Through its range of services it makes a continuing contribution to the productive efficiency of industry. This alone justifies the confidence of its founders.

Movement concentrated into a small area to provide 50 per cent reduction in overall labour cost for a finished goods store.



Floating the load

Two novel developments in mechanical handling equipment are described by Herbert Wunch, head of special projects division of the National Engineering Laboratory.

There is a constant pressure in industry for technical development and improvement, not least in mechanical handling methods and equipment. Often the impetus comes from within the company, but additional sources of ideas and developments are establishments such as the National Engineering Laboratory (NEL) part of the Department of Industry. NEL is one of the largest centres for research and development in mechanical engineering in Europe. Through its work NEL offers a centre for advice and consultancy as well as providing a number of new ideas and developments across much of the broad range of mechanical engineering.

The mechanical handling industry is influenced by advances in engineering in general, but there have also been some developments by NEL directly concerned with mechanical handling problems. These have primarily been the 'floatpad', a system for moving heavy loads and the 'spade and envelope' system, for replacing wooden pallets with a cheap alternative in some situations.

The floatpad is a unique externally pressurised compliant bearing system for the movement of heavy loads with ultra low friction. The system was conceived from NEL's expertise on air bearings and works on the

Moving it

principle of floating the load on a thin film of grease. Each floatpad consists of a steel housing with an elastomer layer bonded to the underside. Grease is pumped at high pressure between the elastomer and the floor or track surface to support the load whilst only developing a coefficient of friction which can be as low as 0.0005 on a suitable steel surface. Leakage of the grease is restricted by the distortion of the elastomer forming a seal around the outside edge.

The floatpad may be run on a variety of surfaces; given adequate load bearing ground the track can be steel sheet or even vinyl sheeting, depending on the quality of the surface. Alternatively a special track system may be laid. With its low cost and power requirement and small size it is easy to move heavy loads in any direction in confined spaces, particularly when there is no cranage or there is minimum headroom. Floatpads can be fitted with integral jacks for adjustment of the load vertically, also allowing for easy fitting and retrieval from under the load.

Having been developed by NEL the floatpad is now manufactured and marketed by Glover Engineering (Mossley) Ltd who produce three sizes, nominally 25, 75 and 150 tonnes rated load although they each have a 35 per cent overload margin. Floatpads have now been put to use in a wide variety of applications. In a shipyard they are used along a special track to move boilers from one area to another and in another yard for the movement of the dock gates, in this case the floatpads operate totally underwater. They have also been used to move items like large transformers and heat exchangers. An intriguing, although perfectly conventional, floatpad application is in the lengthening of the SRN4 cross channel hovercraft. To enlarge the craft by 55 ft a new mid-section is inserted and floatpads are used to manoeuvre and align the mid-section before it can be joined to the two halves of the original craft.

At almost the other end of the load spectrum the spade and envelope system has been developed as a cheap alternative to wooden pallets in situations where the pallet would be lost. Particularly with exports, packaging and handling costs can represent a significant element in the pricing and profitability of goods, and expensive wooden pallets are often lost when sent out as part of containerised unit loads. Alternatively the goods must be expensively hand loaded if the pallet, and the space it occupies, is to be saved.

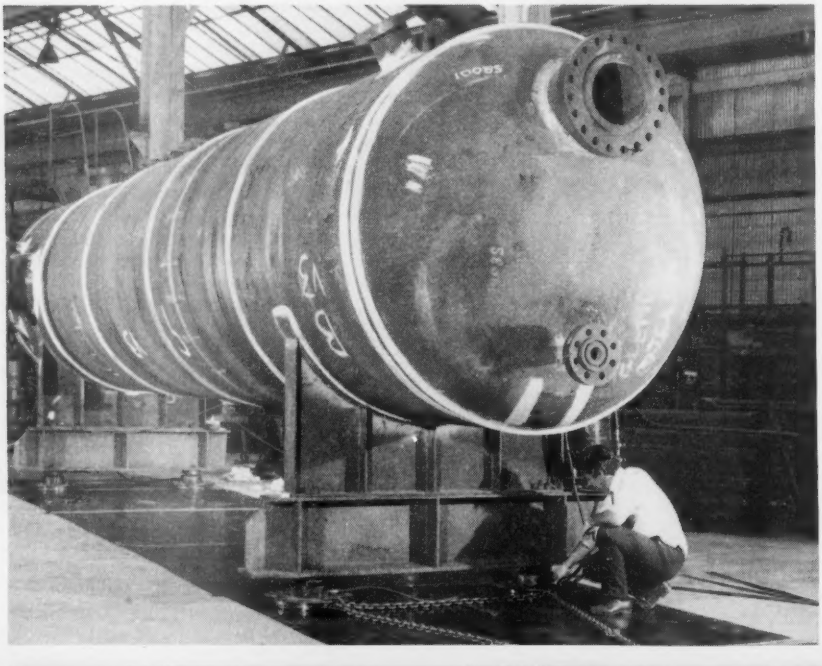
The system uses a perfectly conventional electric fork lift truck with two modifications, the fitting of an air blower to power the system and the replacement of the forks with a thin wedge-shaped platform, the spade, connected to the air supply from the blower. Instead of a wooden pallet an envelope of paper or plastic is used. This is a large bag with one side open, the same size as a conventional pallet. The open side has a sealing arrangement along its edge. When a load on the envelope is to be uplifted, air is blown out of the front edge of the spade inflating the envelope, so supporting the load while the spade is pushed fully into the envelope. The load can then be lifted away on the spade. Loads of up to one tonne have been lifted and operations such as double stacking and retrieval have been found to be possible.

The costs of conversion of the fork lift truck would be relatively low and the savings would be around 70 per cent of the cost of the alternative wooden pallets. Following the interest shown in the system when it was exhibited recently the system is now undergoing full-scale field trials in normal materials handling environments over an extended period to fully prove it. Results of these trials should be available later this year.

A less specific development which has been applied to materials handling has been the use of NEL designed fluid power units in a fork lift truck produced by Total Mechanical Handling. These units have been able to provide a variety of advantages such as low weight and small size and good torque characteristics as well as a flexibility which is difficult to match in other drive systems.

These are only examples of some ways in which specific developments by NEL have been applied in mechanical handling. The work of NEL in general can often be of help in solving problems which face engineers and is readily available whether it is advice, consultancy or whatever that is needed.

Floatpads being used to move an 80-ton pressure vessel for Stone Manganese at Glasgow.

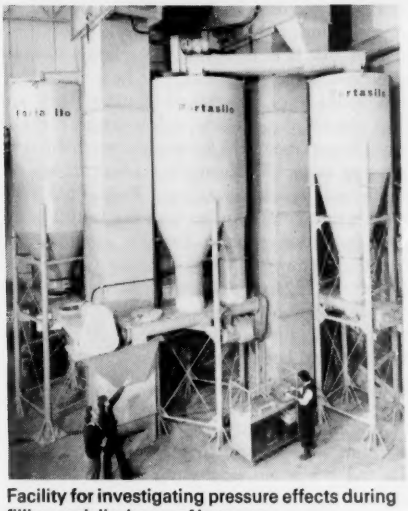


Problems in bulk

Warren Spring Laboratory is expert in bulk materials handling. Dr Peter Bransby of the laboratory's materials handling division puts forward some successful collaborations with industry.

Practical engineering solutions based on the results of the latest research are a special feature of Warren Spring Laboratory's Materials Handling Division. The laboratory (WSL) is an industrial research establishment of the Department of Industry and the division offers consultancy services and carries out research into almost every aspect of bulk materials handling.

Research is supported by the Chemical and Minerals Research Requirements Board (CMRB) of the Department of Industry, by co-operative projects with industry and CMRB, and by direct contract from industry itself. The dust suppression service is an example of the former. The division was asked to collate existing information on dust suppression and to carry out research to extend this information so that a full advisory



Facility for investigating pressure effects during filling and discharge of hoppers.

and consultancy service was available to the whole of industry. Work is proceeding on the compilation of a data bank, the testing of fabric filters and the measurement of the dustability of different materials in different dust emission situations.

Co-operative projects with industry are a feature of the division's work. The first project, that on powder mixing which began in 1972, was successfully concluded in 1975. There are now separate co-operative projects in progress on hoppers, paste mixing, rheological research and continuous weighing. The three-year co-operative project on all aspects of hoppers and silos attracted direct participation by 17 companies and has now been extended to a fourth year at the request of the participants.

Efficient mixing and dispersion of powders into liquids and pastes is an important processing step in those industries manufacturing such commodities as paint, printing ink, adhesives and sealants, plastics, foodstuffs, confectionery, cosmetics and pharmaceuticals, etc. The fluid and paste mixing project aims to improve industrial practice in the area of powder/liquid mixing.

The rheological research service is concerned with the industrial behaviour of fluids, pastes and slurries, especially those which are difficult to handle. Work being carried out is concerned with the transfer of material between rollers and substrates, the kinetics of thixotropic build-up and breakdown and a comparative study of commercial viscometers.

The latest project on continuous weighing has as its prime objective the improvement of belt weigher performance. A large test facility has been constructed containing three troughed belt conveyors of different configurations, each of which can be fitted with different commercial belt weigher equipment. The whole rig is comprehensively instrumented and is monitored by an on-line computer receiving 250 units of data per second.

Industrial companies are welcome to join all the on-going co-operative projects; in addition to guiding and participating in the research work, members have the benefit of an information and consultancy service.

A highly successful hopper design service is run by the division, based on laboratory measurements of small samples of the material to be stored. A notable success was the design of two concrete, 10m diameter silos for potato starch for Tate and Lyle Refineries Ltd. Tate and Lyle had been advised by the starch suppliers that, from experience it was unlikely that a core flow silo in excess of 5m diameter would empty. Tate and Lyle went ahead with the WSL design and the first silo was filled in September 1975 and each have since been emptied and refilled successfully about a hundred times.

Pulsed dense phase conveying describes an entirely new method, developed at WSL, of pneumatically conveying fine materials that could not previously be handled pneumatically. The system is highly economical, creates little or no pollution and is cheap to run. It is now manufactured in the UK under licence through the National Research Development Corporation by Doulton Industrial Products Ltd, Stb Engineering Ltd, and Sturtevant Welbeck Ltd. One licensee alone has installed over 100 units. The system is patented and available world-wide, through sub-licensees in principal countries. The division is developing a pneumatic conveying system for the economical handling of refuse and other chopped wastes.

Not only is it necessary to understand fully the individual items of a materials handling plant but it is also important to understand how they interact with each other in the complete handling system. Many problems and inefficiences that occur in bulk handling arise from a failure to consider the system as a whole. The division has therefore developed a logical method for the design of complete solids handling installations which can allow for relevant constraints in a systematic way.

Solids by pipeline

Over 20 years of experience in pipeline transport gives BHRA a special position in fluid engineering. Current work on a pneumatic capsule pipeline project is described by Dr Peter Baker of the research association.

BHRA Fluid Engineering is an independent, international centre for advanced technology offering information, consultation, design and development services to a wide range of industries. An association of 200 companies from 20 countries, the British Hydromechanics Research Association numbers water authorities, oil companies, manufacturing and processing industries, mining and civil engineering concerns, and consultants, among its members. Although BHRA covers fluid engineering on a very broad front, its research and development activities concentrate on the physical and mathematical modelling of flow problems, high-pressure technology including oil hydraulics, pumps and pipelines and sealing technology.

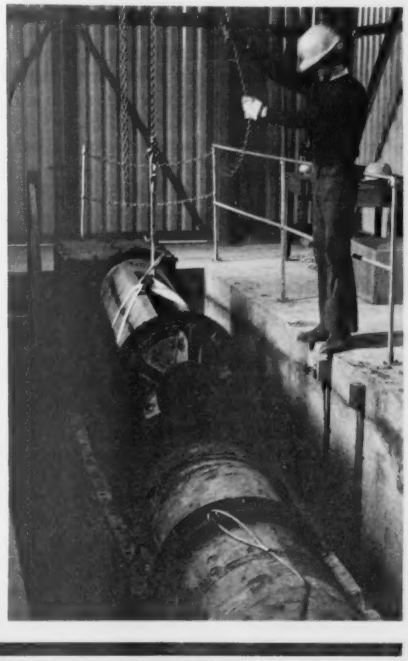
With over 20 years experience in the pumping of all fluids, including solids suspensions in pipes, BHRA has been involved in pneumatic pipeline transport since 1970, taking a leading part in reviving interest in this method of moving solids. The pilot pneumatic capsule pipeline now undergoing tests at Milton Keynes is a direct result of this work.

Pneumatic capsule transport was first used successfully in the nineteenth century, and small capsule pipelines or air-tube conveyors have been employed ever since to carry documents, cash and small articles. The most common system can be seen in shops where the pipes are about 50-80mm diameter, but pipes up to 250mm diameter are used occasionally in factories and offices.

Compact

In 1970, world-wide interest in this form of transport was renewed, with the aim of using it on a larger scale for freight transport. Desk studies at BHRA indicated that pipelines offered a number of advantages. They are compact, have a high carrying capacity, and can be placed underground in attractive natural areas without permanent damage to the environment. It was also clear that for commercial, long-distance, capsule pipelines a booster device was essential to inject driving energy into the line, and BHRA decided to concentrate on developing a booster which would put energy into a line at intervals without obstructing the path of the capsule. The novel booster now installed in the Milton Keynes pipeline was developed as a result of

Loading a capsule into the line.



Moving it

tests carried out on a 200mm diameter model pipe loop, 67m long, installed at the Cranfield laboratory.

The pilot pipeline is a continuous loop of 610mm internal diameter, 545m in length, and made up of four straights and four curves, each of different radius. The design and construction of the whole facility are the result of co-operation within a consortium of firms and organisations, including component manufacturers and potential users. The consortium members are: the Transport and Road Research Laboratory (TRRL), BHRA, the Central Electricity Generating Board, Sturtevant Engineering Products Ltd, General Descaling Co Ltd, National Coal Board, and British Steel Corporation. The major part of the cost of £200,000 will be met by TRRL up to the end of the first phase of the development programme in 1978, while other members of the group have contributed equipment or services.

The patented TRRL/BHRA booster device has a pivoted flapgate which allows capsules to pass through with minimal interruption of capsule motion, and without relying on external devices for sensing the approach of the capsule and controlling the action of the booster. Air in the pipeline is also re-pressurised efficiently. A centrifugal fan, capable of delivering 8.5m³/s at a pressure of 12kPa for a shaft input of 125kW, supplies the air. The output of the fan is controlled by inlet guide vanes which are remotely operated by a small electric motor.

Pipes of three different materials are incorporated in the pilot line: steel, ductile iron and concrete. A special test section will enable pipes of other materials to be studied, for example, plastic pipe. The whole pipeline is equipped with fixed instrumentation to measure air flow, pressure and temperature, to detect capsule passage at each transition from straight to curved pipe, and to measure the electrical power input of the driving motor. A specially designed instrumentation package is carried in one of the capsules to record air pressures, speed, distance, accelerations and roll angle. Provision has been made for direct measurement of dynamic wheel loads and the clearances between capsule body and pipe wall.

The test programme will last for about 18 months. Initial running will test booster reliability and enable capsule design to be refined. Pipeline wear and capsule weaknesses will be revealed as the tests continue, and the energy efficiency of the system, including its dependence on operating speeds and capsule and pipeline characteristics, will be carefully studied. The assessment of economic and environmental factors will be crucial to the future of commercial pneumatic capsule pipelines. The test programme will enable confident estimates of cost and performance to be made, and the next step will be to study the handling arrangements in conjunction with the type of material to be transported.

At present, BHRA expects the first applications of the system to be in bulk solids handling, where large amounts of, say, coal, industrial waste, or gravel need to be transported on a continuous basis. If this stage is successful, then we can look at the possibilities for moving manufactured, processed and packaged goods between population centres. It is at this stage that the enclosed nature of the pipe will offer further benefits, such as protection from contamination, theft, accidental damage, and adverse weather conditions.

A position of strength

Industrial trucks manufacturing has experienced an increased severity in trade cycles. Neville Wade of Lansing Bagnall Ltd outlines the steps his company has taken, with some government assistance, to prepare for the next upturn.

The ups and down of trade cycles are not new to companies in the materials handling business. In particular, British manufacturers of industrial trucks have found over the past 20 years that they have moved from booming order books to short-time working in a very short space of time. In the past it was relatively easy for the storm to be weathered and for companies to live off the strength they had built up in the good years.

The worst sufferers from the increased severity of the trade cycle were the customers who had to console themselves with delivery times which would see-saw from the opportunity of buying trucks ex stock to the prospect of a wait often exceeding 12 months.

However, the lessons of the past three years have been carefully learned and the future looks as though it will present a somewhat different picture. In June 1974 a reversal of order trends meant that a peak had been passed but it is doubtful if anybody at that time could have foreseen just how steep the fall would be or how long it would endure. In fact, the bottom of the trough was not reached until September 1975 for some manufacturers. Among these was Europe's leading maker of industrial trucks – Lansing Bagnall. Only now is that company back on the uphill path and its order book is looking increasingly healthy. However, there is some way to go before the 1974 rate of activity is restored and that is still not a complete picture when it is considered that hitherto the fork truck business had been expanding at almost 10 per cent per annum.

Being the largest maker within a highly competitive industry where there are some 40 companies competing for orders in the United Kingdom, including five substantial multinationals, brings its own headaches. For Lansing Bagnall, with sales approaching £90 million after its acquisition of the Henley company in September 1976, there are many plans under way to ensure that business and growth are maintained at a much more constant and controlled level in the future.

The purpose of Lansing Bagnall is to provide the customer with highly developed mechanical handling equipment which will ensure that the users' business benefits from improved efficiency. A range of products, including many types first designed by Lansing Bagnall, are offered. To support these, there are ancillary services which promote a strong identity with Lansing Bagnall and provide a core of repeat business. The formula has been markedly successful in the UK and is proving no less so in overseas markets where there are seven subsidiary companies and a host of distributors.

At a time when many of its competitors were still suffering considerable cash flow

The Lansing Bagnall FAER 5.1 turret truck was designed to provide increased warehouse capacity by reducing aisle widths. Almost 1,000 such trucks are now working throughout the world. This particular truck is working in Denmark.

problems, Lansing Bagnall announced a scheme to improve its manufacturing facilities at the Basingstoke factory. A programme totalling £6 million was prepared and in order to fulfil this the company took advantage of the accelerated investment scheme of the 1972 Industry Act. This government interest relief grant meant that plans could be implemented immediately in readiness for the upturn of the trade cycle. By investing at a time when all business indicators were pointing to the contrary manufacturers like Lansing Bagnall are now able to look forward to the upturn from a position of strength especially in the international market place.

The specific intention of Lansing Bagnall was to increase the efficiency and flexibility of its manufacturing plant so that it might respond more rapidly to demands from the market for change and to combine high volume output with a wide product mix. One of the key areas is in the provision of new machine tools to replace old equipment and to provide instantaneous component supply. The company had already invested some £3 million in 1975-76 to create security of supply for major components. However, in order to produce trucks on a short manufacturing cycle, there would be insufficient time for detailed procurement of small but essential parts used in final assembly. By using modern computer controlled machine tools for making these items, significant batches can be produced at short notice. Tape control, which virtually eliminates setting times on the machine tools, provides a facility for rapid change over of programme as well as high volume output. This is a very positive example of responding to market needs which is, for Lansing Bagnall, one of the key factors to success.

Other projects which have been included within the scheme include the construction of a completely new factory for the assembly of electronic and electrical components and subassemblies. This is now being constructed on the Basingstoke site, and an important result of this factory when it is opened in spring 1978 will be increased output per employee from a building which is specifically designed and equipped for its purpose. This contrasts with the present facility which has been evolved and developed over many years.

Another part of the scheme is to construct a facility for the final assembly of very high lift trucks which are used in the new generation of high rise warehouses. Alongside this there is a test building for these specialised trucks which will enable internationally approved procedures to be carried out alongside the production area. Increasingly, design and safety standards are being applied to such equipment in many countries and since 80 per cent of Lansing Bagnall's production of this type of equipment is exported, this is naturally important. There is also a modernisation scheme to update and increase the capacity of the shot blasting facility. This will enable Lansing Bagnall to produce much more of its requirements in house and so reduce subcontract work which is becoming increasingly costly because of the escalating transport charges.

Lansing Bagnall applied formally for accelerated investment assistance in April 1976 and within six months work had started on all of these projects. The new electronics factory will be completed by the end of this year and two-thirds of the machine tool programme has been ordered. Throughout the life of the projects, close consultation is maintained with DTI officials who monitor progress.

For a company like Lansing Bagnall which is involved in manufacturing capital goods, effects of industrial investment are felt acutely. Government's accelerated investment scheme is considered by John Allenby, joint managing director to fulfil precisely the purpose for which it was established. The total effect is anti-cyclical: industrial activity is generated at the bottom of the trade cycle, jobs are created and manufacturing industry is led out of the recession.

Investment partnership

Herbert Morris Ltd are meeting the changing needs of customers with a £4 million investment scheme. Alan G. Schroeder, the company's managing director, explains how the scheme interlocks with government assistance programmes.

Despite the advances of recent years, mechanical handling remains one of the main areas in industry where dramatic improvements in efficiency can still be achieved. There is thus a big responsibility on the suppliers of materials handling equipment to ensure a steady flow of new and improved designs at realistic prices to meet the changing needs of users.

If the manufacturers of handling equipment are to continue to play their full role in the regeneration of British industry and in the drive for exports, there must be heavy investment in new products, improved manufacturing facilities and training the workforce at all levels.

Hopes that these ends will be achieved are encouraged by the growing partnership between government and industry. It is seen in such measures as the accelerated investment projects scheme, in co-operative research with government establishments, in support for industry-based development and in the imaginative teaching company scheme.

Government assistance which is helping the handling industry to develop new products and make better use of resources is well illustrated by Herbert Morris Ltd of Loughborough, an international group deeply involved in the design, manufacture and service of industrial lifting and handling equipment.

Herbert Morris are about half-way through a four-year investment scheme at a total cost of some £4 million. The scheme is a reflection of the company's total commitment to success in the home, and more especially the export market where its future will increasingly lie.

Much of the investment is in machine tools and equipment to give the workforce the most up-to-date facilities to give their skills and experience full play in a competitive market. An example is a new heavy ram borer, costing £350,000, and the first of its type in the UK, for machining special heavy crane components up to 10.7m long, 2m wide and 4m high.

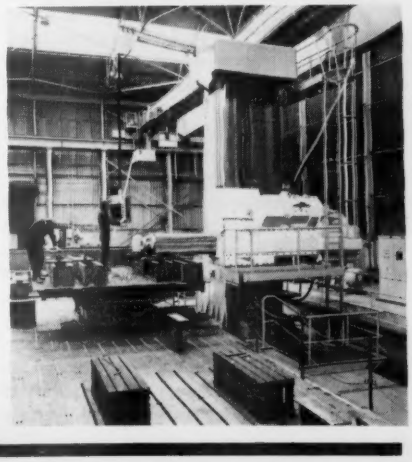
Though the interest relief grant of £300,000, under the accelerated investment projects scheme might appear small in relation to the total capital programme, its real significance is that it enabled Morris to bring forward the investment programme and get on with installing essential equipment at a time when world trade was depressed and money expensive.

As a result, the company is now ready to take advantage of the expected upturn. Moreover, the impact of accelerated investment grants on other sectors of British industry and such other projects as the Department of Industry's foundry scheme have generated demand for handling equipment – a useful spin-off for Morris which has no doubt been repeated in other capital equipment areas.

New areas of handling related technology are expensive to develop and a technological lead can only be maintained by progressive investment in development. Further financial support by the Requirements Board of the Department of Industry towards a £300,000 project by Linear Motors Ltd (a member of the Morris group) is an excellent example of government assistance in a field which has very significant potential in many applications, not least in the handling industry.

As the international leader in linear induction motor drives, with products already

Heavy duty boring and milling machine, purchased by Morris with the aid of the accelerated investment projects scheme.



Moving it

selling overseas, including the United States and Japan, Linear Motors has needed funds to support a first class team working on a concept with applications ranging from overhead conveyors for electro-plating lines and aluminium extrusion presses to underground mining drives and even providing a propulsion system for an exciting gimmick in the new James Bond film.

Full marks are due to the Requirements Board for sanctioning this support, which, with a contribution from Herbert Morris, is enabling Linear Motors to continue to develop a technology which offers many possibilities over a wide field of applications.

Other examples of government/company co-operation include the contracts from the Ship and Marine Technology Requirements Board under which Herbert Morris are applying their special facilities and experience to handling problems of wide significance and change for shipbuilding.

One contract, of importance to the costs of constructing the modern covered shipyard, is a study of the interaction between cranes and the dynamic loading they generate on the building. Another relates to the development of a crane using a single hydraulic power source capable of powering all crane motions with totally variable control characteristics.

Yet another example of fruitful collaboration is a feasibility study, now well under way, in which Morris is working closely with the National Engineering Laboratory (NEL) on a new range of electric hoist blocks. The company contributes its vast experience in this special field, and the laboratory its fundamental knowledge over a broad engineering spectrum.

Morris are dedicated to the proposition that people represent the company's most valuable resource; every effort is made to provide the best training possible for staff at all levels and thereafter to retain their services and enthusiasm by a participatory style of management which has proved particularly effective in recent years.

It is particularly important to bring the best brains into manufacturing industry, contrary to general trends over the past 10 years, and the selection of Morris as one of the participants in the joint Department of Industry and Science Research Council teaching company scheme is seen as of particular importance.

Under this scheme, young first-class engineers combine work on important projects inside a company with related academic studies, thus cementing an effective relationship between industry and the academic world. In Morris' case, two graduates began work on 1 January this year, dividing their time between the works and Loughborough University, under the joint supervision of the company (at director level) and Professor Roy Sury of the university.

At the end of two years, it is the expectation that two bright young graduates, who might otherwise have been lost to the manufacturing industry, will be committed to a career which will give them job satisfaction, and British industry will gain a valuable accession of the brain power and ability it needs to make progress in a highly competitive world.

British industry has the latent power for self-regeneration, but with government support of the kinds outlined in this article, the process of recovery will be more certain and speedier.

Movement' 77

Major coverage of the industry is presented at the International Mechanical Handling Exhibition at Birmingham's National Exhibition Centre, 16 to 21 May. Examples of this coverage are provided by the following exhibitors.

Movement resources centre

A self-contained advisory centre within the exhibition is provided by the Department of Industry and the Federation of Associations of Materials Handling Manufacturers. Professional consultants are on hand to answer visitors questions. Technical information and guidance on finance, leasing and rental arrangements is readily available. A special service to visitors is provided by a computer selector giving print-outs on where to find items of specific interest.

Storage and handling can account for as much as 95 per cent of the time that material spends in the manufacturing cycle. Materials handling costs are featured in the Department of Industry section. Its committee for materials handling is offering a new publication which indicates why materials handling costs are often excessive and suggest methods for individual assessment of cost reductions.

Glover Group

There is plenty of movement on the Glover Group stand. Glover Engineering (Mossley) Ltd is using small-scale equipment to demonstrate the efficiency of the floatpads developed by the National Engineering Laboratory (see page 265). Manufactured with load carrying capacities of 25, 75 and 150 tonnes, they are proving very efficient in shipbuilding, general engineering and other applications.

British Ropeway Engineering Company's new film, which covers the broad range of their materials and passenger handling services, is being shown frequently during the period of the exhibition. Showing both bicable and monocable industrial ropeways in operation it makes their basic technical difference readily apparent. Two recirculating passenger ropeway techniques are shown as working installations. The camera focusses on the loading of ships, a conveyor plant for stockpiling different grades of material, and finally a drag scraper self-discharge system for seagoing dredgers.

Another Glover company, Paterson Hughes Engineering Co Ltd is exhibiting on the stand together with Glover Brothers (Mossley) Ltd showing examples of locked coil and stranded steel wire ropes, and Glover Plastics Ltd who is displaying examples of engineering components in thermoplastics and the NCB/Glover cable-handling chain which is manufactured in nylon and provides a system giving maximum protection to static and moving cables on longwall coal faces.

Lancer Boss Group Ltd

Lancerboss, manufacturers of a wide range of lift trucks, are showing 19 machines, including a completely new rear wheel steer sidelift, together with handling attachments. The machines include frontlift and sidelift trucks as well as a range of container handling equipment. Capacities are from 2000kg to 37,000kg and applications cover general handling to specialised roll on/roll off ship to shore operations. Five machines are avail-

able for outside demonstration and stand visitors are invited to drive one of these, a 3,000kg sidelift, themselves.

On show for the first time, the new sidelift is a 200 Series general purpose LPG machine with rear wheel steer and capacities of 3,000kg jacked, 2,000kg jackless. A platform width of 900mm, overall width of 1,500mm and a 3,450mm turning radius make it particularly suited to extremely narrow aisle applications.

Apart from other sidelift machines, general purpose frontlifts, including diesel, electric and LPG machines, are on display.

The diesels incorporate fine inching control, emission controlled industrial engine, torque converter, power shift transmission, hydrostatic steering and full instrumentation. Infinite speed control of traction and hydraulic services for smooth, quiet operation, is provided on the electric machines. For container handling and stuffing Lancerboss offer a wide range of front and sidelift trucks with attachments, where fitted, fully integrated within the trucks hydraulic and electrical system.

G. Hunter (London) Ltd

A comprehensive range of loading and access equipment is being displayed. The new Hunter 'Compact' dock leveller is featured for the first time at any exhibition. It includes every safety and control feature and is fully automatic. A new range of loading bank door shelters and seals is on display with other accessories for use with Hunter dock levellers. Other models in the company's range of dock levellers are on show.

Hunters will be showing representative models from their range of liftables. All models include various safety devices, have low collapsed height and high travel. The standard range is from one-half tonne to 75 tonnes. Mobile aerial work platforms, up to capacities of 450kg (1,000 lb) and heights of 24m (80 ft), both static and self-propelled models, are on show. Also being shown are the EXO triple gear chain block, up to a capacity of 40 tonnes, pallet trucks and a complete range of ratchet and hydraulic jacks.

GEC Mechanical Handling Ltd

The company's capability in airport baggage handling is being shown, together with replenishment at sea equipment, conveyor idlers and a practical demonstration of the movement of granular material by vibration. The Concorde check-in at Heathrow typifies the semi-automatic baggage handling systems, with multi-position check-in and reclaim, engineered by GEC.

For the transfer of solid or packaged cargoes at sea, a system is on display which provides for safe transfer up to sea state six. A control system monitors and ensures correct tension of the carrying wire rope between the two ships. Commercial applications include the transfer of fish from trawler to factory ship, replenishment of fixed oil or gas drilling rigs, and replenishment of lighthouses and lightships.

Inherently maintenance free, because the drive unit involves no wearing parts, is a feature of GEC's demonstrated material movement equipment. A basic electromagnetic vibrator drive unit is applied to feeders, conveyors, vibrators, tables and special purpose equipment. Machines with a capacity range from a few kilograms to over 2,000 tonnes per hour operate in quarries, steelworks, collieries, foundries, and in the fertiliser, food processing and pharmaceutical industries.

Sources of further information on materials and mechanical handling:

National Materials Handling Centre
Cranfield Institute of Technology
Cranfield
Bedford MK43 0AJ, tel. Bedford 750323

British Hydromechanics Research Association
Cranfield
Bedford MK43 0AL, tel. Bedford 750422

Warren Spring Laboratory
Gunnels Wood Road
Stevenage
Herts SG1 2BX, tel. Stevenage 3388

National Engineering Laboratory
East Kilbride
Glasgow G75 0QU, tel. East Kilbride 20222

Institute of Materials Handling
St Ives House
St Ives Road
Maidenhead
Berks SL6 1RB, tel. Maidenhead 28011

Institution of Production Engineers
Rochester House
66 Little Ealing Lane
London W5 4XX, tel. 01-579 9411

Centre for Physical Distribution Management
Management House
Parker Street
London WC2B 5PT, tel. 01-405 3456

Federation of Associations of Materials Handling Manufacturers
7 Ludgate Broadway
London EC4V 6DX, tel. 01-248 1662

Building Research Establishment
Building Research Station
Garston
Watford
Herts WD2 7JR, tel. Garston 74040

Technical Help to Exporters
British Standards Institution
Maylands Avenue
Hemel Hempstead
Herts HP2 4SQ, tel. Hemel Hempstead 3111

Link 51 Ltd

A multi-purpose speedily erected storage system is making its debut at the exhibition. Linkstor offers for the first time, in one system, two totally different storage concepts: a closed binning system with easily-adjustable shelf-brackets and beam supported long span open shelving or racking in single or multi-tier. Its wide range of accessories allows many variations within these two basic storage approaches in one installation, ensuring for the user many options and a high degree of flexibility throughout its life. Designed to metric dimensions, applications of Linkstor range from sophisticated automated and high-rise shelving systems to simple racking and binning.

System assembly is very simple. Frames are available in five depths, and beams (in lengths from one to three metres) are located by inserting triple tongue connectors into slots in the rear of the uprights enabling the beam levels to be adjusted without moving the frames in back-to-back applications. A key feature of Linkstor is the longitudinal divider which provides the advantages of back-to-back shelving at lower cost within one end frame depth. Another feature is a specially-profiled steel shelf panel stepped 20mm at 150mm centres, which can be used up to 3,000mm long and 1,200mm deep.

Linkstor can also be used to provide multi-tier structures with walkways, or it can form narrow aisle systems for automated order-picking. End frames can be supplied open or ready clad with steel panels for total segregation of goods, or with welded steel mesh to provide light penetration and through vision.

New products

Battery converter for colour television receivers

Weir Instrumentation of Bognor Regis, has introduced the latest in its series of television DC-AC converters, which enable colour television receivers designed for ac mains operation to be powered from a 12-volt car battery or similar source.

This new model, type LF100T MkII, is capable of delivering up to 100 watts at 240 volts ac, which is sufficient to operate most small colour receivers.

Ideal for use in caravans and boats, the unit is also useful for operation of small solid-state colour television receivers from the car battery when camping or picnicking. Completely self-contained, the converter is complete with an on-off switch and an integral 13-amp flat pin socket for direct connection of the television receiver. The user simply plugs in the receiver and connects the converter to the battery using its pair of colour coded heavy duty leads, which are fitted with spring-grip connecting clips. If desired the unit, can as an alternative, be supplied fitted with one of the standard European mains sockets.

Further information: circle 337

Odour control

The smell of rotten egg gas can now be removed by a form of carbon made by Chemviron of Kingston-on-Thames. Vapour phase carbon is said to be a very effective material for removing pungent hydrogen sulphide and other odorous gases from the environment.

Further information: circle 338

Versatile truck-mounted crane

Combining manoeuvrability, versatility and flexibility with rugged durability and reliable rapid performance, a new 20-tonne machine has been added to the range of Thomas Smith and Sons (Rodley) Ltd's truck-mounted telescopic cranes. Designated the LT20M, this new mobile unit incorporates a 16m (52 ft) lattice boom extension which provides a total reach of 40m (131 ft).

Featuring smooth hydraulic transmission of power to all motions, independently served by two pumps, the LT20M incorporates stepless-speed change, continuous rotation, precision accuracy of handling and controlled lowering down to creep speeds. The three-section telescopic boom provides the maximum 20 tonnes hoisting capacity at 3 metres radius down to 1.15 tonnes at 18 metres. Using the swinging lattice boom extension, the working range is increased to 0.6 tonnes at 26 metres.

The crane carrier is a 3-axle Faun, with two steering wheels and four driving wheels powered by the dual-function 176 bhp diesel engine. Two pairs of hydraulic outriggers are incorporated into the chassis, for stabilisation at longer radii, with independently adjustable jacks for levelling.

Further information: circle 339

Flocculants

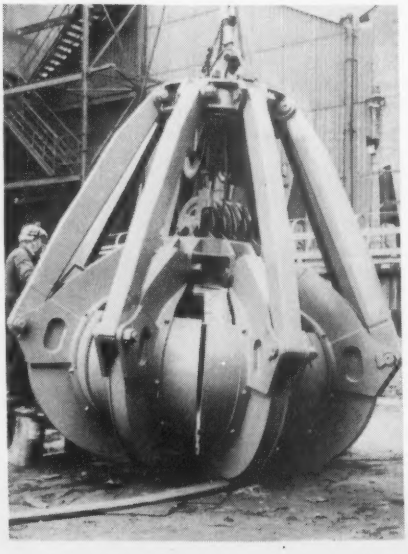
Under the brand-name Celite-Floc, Johns-Manville are now producing flocculants in powder and liquid form, to cater for the wide variety of modern separation techniques which depend on efficient coagulation or precipitation of solids in suspension. They are long-chain, high-molecular-weight synthetic polymers, totally water-soluble, which can produce satisfactory particle agglomeration when used in very low ratio to the mass of matter treated. In certain cases, a few grammes per tonne suffice.

Flocculants have marked advantages over chemical aids in most large-scale separation systems. Whether it be sedimentation, filtration, flotation or centrifugal precipitation, all these methods benefit from the correct application of electrolytic polymers.

Further information: circle 340

Scrap grab

A mechanically-operated multi-blade grab designed and manufactured by Butters Westwood of Hillingdon for dockside work in Birkenhead. Operated by a crane the plant will be used mostly for steel scrap handling and is the largest ever produced by the company.
Further information: circle 341



Freepost reader service

For further information on items in this section, circle the corresponding number on the reader services page near the end of the magazine.

Underwater surveys in rough weather

Up till now, it has not always been possible to carry out an underwater survey of pipelines in poor weather conditions. Now UDI of Aberdeen has developed an accurate all-weather means of sonar survey. For years it has been recognised that a ship's motion has a spoiling effect on sonar records, making it very difficult to determine the depth of pipe burial in rough weather and there have been experiments with a variety of methods including accelerometers and towed sonar fish with compensated winches, all to little effect.

UDI has developed a heave-compensated profiler, type AS 450 C. The vertical motion of the towed fish is analysed and digitally processed instantaneously, and completely removed from the returning sonar signals. The result is a true profile of the sea bed, irrespective of weather conditions and the motion of either the fish or the towing vessel.

Further information: circle 342

Polymer mixing and extrusion

Farrel Bridge of Rochdale is developing a machine for the continuous integrated mixing and extruding of polymer materials. Known as the MVX, it is seen as a step towards the ultimate redundancy of separate mixing and extruding plant, with the savings that this implies.

The MVX is a four stage machine capable of precision extrusions.

Advantages include savings of up to £100 per ton on feed stock by using un-compounded materials; integrating scrap with virgin stock; producing a wider range of polymers without changeover production losses; and extrusion of powdered rubber sections for continuous production.

In addition the machine can be used for the alloying and filling of polymers.

Further information: circle 343

Microfilm cassette reader

The Microfilm Cassette company in London is now designing and marketing a microfilm reader. Called the Otamat 101, it is one of the smallest and lightest microfilm readers of its kind, weighing only just over 1kg or 2.2 lb while being robust and reliable.

Further information: circle 344

Technology news

Translating research into industrial achievement

Long term research is a continuing activity essential to our economic and social advances in time to come, said Shirley Williams, Secretary of State for Education and Science, last week.

Speaking to the Association of British Science Writers Mrs Williams explained that while the work of the research councils would have little immediate impact on our economic situation, the present exploitation of oil in the North Sea depended as much on basic research done in universities and other establishments over many decades in the past as on applied research done in oil companies and other places since then.

'The Civil Science budget of some £250 million is spent largely on basic and strategic research in universities and institutes of the research councils. The taxpayer can fairly ask whether a country which badly needs to solve urgent economic problems can still afford to support basic reasearch on this scale.

'Some people may say that we can afford to let our good young scientists emigrate and to leave it to other countries to make the new discoveries and then apply them to our purposes. But other countries have no need to concern themselves with our special problems and we have to keep an expert scientific community in all major fields so that we may know enough to recognise the advances made elsewhere and exploit these as quickly as possible . . .

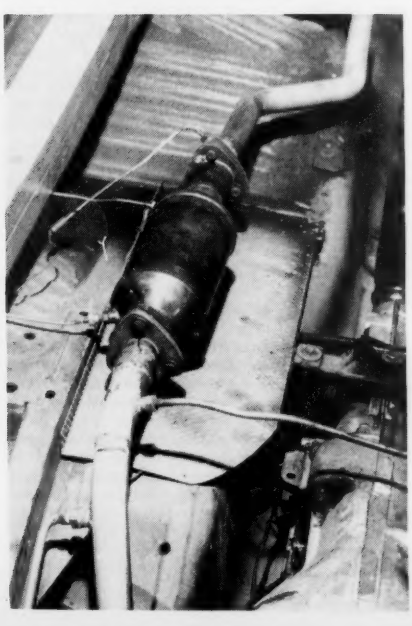
'One of out national weaknesses is that we are stronger on basic research than on its industrial application, that we have proportionately more Nobel prize winners than any other country and yet import heavily the products of technology. We need to be more effective in translating research into industrial achievement and for this more young people, trained in science and technology, need to make their mark in our industries. But this very necessary shift need not be at the expense of going slower on basic and strategic research.'

Speaking about the great efforts that were being made to bridge the gap between universities and polytechnics and industry Mrs Williams said: 'You will no doubt know already of the Science Research Council's initiatives to introduce postgraduate courses devised and run in association with industry – the Teaching Company, Total Technology, CASE and so on. At undergraduate level the University Grants Committee has plans for engineering courses, perhaps lasting four years, which would be enriched by studies in such subjects as accountancy, industrial relations and technological economics. These would be specially designed for the high flyers. At the same time the UGC and the Council for National Academic Awards are thinking about the structure and content of courses for the broad body of average students who, having taken a degree in engineering, will be employed in a great variety of jobs in industry.

'There still seems to be an impression that the number of science and technology students in universities is falling and that is the reason for all the empty places. This impression needs to be corrected. It is true that after topping the 42,000 mark in 1971-72 the number of admissions to degree courses fell back somewhat for a couple of years but even in 1974-75 it was over 43,000 and it has continued to rise since then. The latest figures from the Universities Central Council on Admissions show that applications for 1977 are 6 per cent higher than at the same date in 1976 for the pure sciences and no less than 14 per cent for engineering – an indication of a welcome swing from the pure to applied sciences. Allowing for some wastage, we now seem to be heading for a total output of qualified scientists and engineers in the region of 40,000.'

Controlling exhaust fumes for America

Controlling pollution in the exhaust system of a Hillman Avenger is this platinum alloy catalyst made by the Johnson Matthey Research Centre at Reading. The systems are being fitted to cars for export to America and were developed specifically for use in the US where unleaded fuels are available. They cannot be used on cars in the United Kingdom where the lead in the petrol would poison the catalyst. The centre has recently won the Queen's award for technological achievement.
Further information: circle 345



Elements of safety

Since the prototype steam generating heavy water reactor at Winfrith, Dorset, came on power in 1967 continuing research and development programmes have resulted in optimising of fuel element designs, authors from the United Kingdom Atomic Energy Authority and British Nuclear Fuels Ltd, reported at an international conference last week.

In a paper presented at the conference, D. O. Pickman, UKAEA Reactor Fuel Element Laboratories, Springfields, and G. H. Inglis, BNFL, Risley, noted that the essential features determining the reliability of fuel in a reactor were established long before the production of any power. Exhaustive design analysis, diverse large-scale fabrication experience and effective quality control were all important factors in the production of fuel to meet high standards of reliability.

The results of the development programme carried out in relation to SGHWR fuel have been continually analysed, leading to the present optimised design. Fuel has been fabricated at Springfields for more than 20 years; during this time experience and knowledge have accumulated from the manufacture of many different types of fuel. Much of the powder, pelleting and canning technology required is applicable to any type of fuel.

An area where a process change has resulted in an improvement in the consistency and hence reliability of the product is the introduction of the BNFL dry conversion route for the conversion of uranium hexafluoride to uranium dioxide in a single stage. This route produces uranium dioxide powder of a consistent and high quality which enables the pelleting plant to operate at constant conditions and also to produce a consistent high quality product. An added advantage is that it makes quality control easier.

SGHWR fuel irradiation experience shows that the effort put into improving reliability has paid off, and the rate of incidence of failures has steadily reduced.

For a variety of reasons, the design of the fuel element for the planned commercial SGHWRs calls for the use of 60 pins per element, rather than the 36 pins of the prototype.

Parliament

Monday, 2 May

Consumer Credit Act 1974
Robin Corbett (Hemel Hempstead) asked the Secretary of State for Prices and Consumer Protection, what further steps he now proposed to take to implement the Consumer Credit Act 1974.

Mr Fraser said that he hoped shortly to make effective provisions imposing on creditors joint and several liability in respect of misrepresentations and breaches of contract by suppliers as well as those prohibiting the canvassing of cash loans, the sending of circulars about credit and hire to young people and the unsolicited sending of credit cards and similar items. Later this year he hoped to make requirements about disclosure in credit and hire advertisements.

Consumer safety
Dr Oonagh McDonald (Thurrock) asked the Secretary of State for Prices and Consumer Protection, if he proposed to publish a white paper on consumer safety.

Mr Fraser replied that his department was currently reviewing the suggestions set out in the consultative document on consumer safety published in February 1976 (cmnd 6398), taking into account the many comments received. He hoped to make firm proposals for new consumer safety legislation later this year, possibly by means of a white paper.

Consumer advice centres
Michael Ward (Peterborough) asked how many consumer advice centres were now open and being grant-aided by the Department of Prices and Consumer Protection.

Mr Fraser said the present estimate was about 120 centres all of which would be grant-aided by 1977/78. He intended to announce further details about the grant scheme very shortly.

Consumer Protection Advisory Council
Fergus Montgomery (Altrincham and Sale) asked what were the factors employed in determining the composition of the new Consumer Protection Advisory Council and what remuneration each member of the Consumer Protection Advisory Council received.

Mr Fraser said that in appointing members to the Consumer Protection Advisory Committee his aim was to ensure that they had between them a wide background of experience. The Fair Trading Act required specifically the inclusion of members with knowledge and experience of the production or supply of goods, of enforcement of consumer protection legislation, and of consumer organisations or consumer protection activities. The members of the committee did not at present receive any remuneration.

One-day sales
Nigel Spearing (Newham South) asked the Secretary of State for Prices and Consumer Protection, if he would refer to the director-general of fair trading alleged abuses against consumers at one-day sales.

Mr Fraser said that the director-general of fair trading was already considering this matter. If he was satisfied that such sales adversely affected the economic interests of consumers in a manner set out in part 2 of the Fair Trading Act, it was open to him to propose a suitable order under that act.

Misleading advertising
Bryan Davies (Enfield North) asked the Secretary of State for Prices and Consumer Protection, if he was satisfied with the working of present arrangements about misleading advertising.

Mr Fraser replied that the advertising industry's code of practice provided guidelines in an area where standards were difficult to define precisely. The Trade Descriptions Act and a number of other statutes were also relevant to certain aspects of advertising.

Defining adequate profits
Nicholas Ridley (Cirencester and Tewkesbury) asked the Secretary of State for Prices and Consumer Protection, what percentage return on capital employed he believed to be adequate profits for the purposes of clause 2 of the Price Commission Bill.

Mr Hattersley pointed out that the adequacy of the return on capital depended on many factors, including the cost of the capital, the business risk and the need for further investment, all of which varied from company to company. For this reason it was impossible to give a figure which applied generally.

Fewer bangers
Janet Fookes (Plymouth, Drake) asked when it was intended to phase out the sale of banger-type fireworks.

Mr Fraser said that the voluntary agreement reached with the firework manufacturers in 1975 would result in banger production in 1977 being reduced to half of that in 1975. He had arranged to discuss future arrangements with the manufacturers in June or July this year.

Firework injury statistics
Mr R. E. Bean (Rochester and Chatham) asked the Secretary of State for Prices and Consumer Protection, when he proposes to discuss the most recent firework injury statistics with the firework manufacturers.

Mr Fraser said: 'I met representatives of the Firework Manufacturers' Guild on 21 April. The firework injury statistics for October/November 1976 were among the matters discussed.'

VAT inclusive pricing
Frank Hooley (Sheffield, Heeley) asked what progress was being made on the reference to the Consumer Protection Advisory Committee on value added tax inclusive pricing.

Mr Fraser said he expected to receive the committee's report on the reference by 18 May.

Retail prices
John Wakeham (Maldon) asked the Secretary of State for Prices and Consumer Protection by how much retail prices have increased since February 1974.

Mr Hattersley said: 'The latest monthly rise is 1 per cent and the latest year-on-year increase is 16.7 per cent. The latest three monthly rise is 4.6 per cent. That could be said to produce an annualised figure of 19.9 per cent though it would not be statistically valid as an indication of the trend. This brings the increase since February 1974 to 72.9 per cent.'

Tony Durant (Reading North) asked by how much food prices have risen since February 1974.

Mr Hatterlsey said: 'The food index rose by 84.8 per cent between February 1974 and March 1977.'

EEC and food prices
John Biffen (Oswestry) asked the Secretary of State for Prices and Consumer Protection, what estimate he had made of the likely percentage increase in total food prices during the current year as a consequence of EEC arrangements.

Mr Hattersley referred to the announcement by the Minister of Agriculture on 27 April that the outcome of the recent CAP price negotiations could add about ½ of 1 per cent to average retail food prices in the year up to 1 April 1978. The two remaining transitional steps which the UK was committed to take under the treaty of accession would add about a further 1 per cent to food prices in this period. The effect on the British consumer of the 2.9 per cent green pound devaluation would be more than offset by the butter subsidy which the UK had negotiated.

Ministers

Department of Industry

Secretary of State: Eric Varley
Ministers of State: Alan Williams
Gerald Kaufman
Parliamentary Under-Secretaries of State: Robert Cryer
Leslie Huckfield

Department of Trade

Secretary of State: Edmund Dell
Parliamentary Under-Secretaries of State: Michael Meacher
Stanley Clinton Davis

Department of Prices and Consumer Protection

Secretary of State: Roy Hattersley
Minister of State: John Fraser
Parliamentary Under-Secretary of State: Robert Maclennan

Inflation rates
Sir George Young (Ealing, Acton) asked about the rate of inflation in the months March 1974, April 1975, April 1976 and March 1977.

Mr Hattersley replied that the rates of inflation were: 13.5 per cent, 21.7 per cent, 18.9 per cent and 16.7 per cent respectively.

Price increase applications from breweries
Leslie Spriggs (St Helens) asked about price increase applications from breweries.

Mr Hattersley said that detailed questions about the number of price increase prenotifications and the results were for the Price Commission. The average increase in beer prices in the year to March 1977 was 21 per cent.

Nationalised industries' prices
Geoffrey Dodsworth (South West Hertfordshire) asked what representations had been received from consumers about nationalised industries' prices since the beginning of the year.

Mr Hattersley replied that since the beginning of 1977 he had received about 70 representations on various aspects of nationalised industry prices. Most of these were from individual members of the public.

Standard price for bread
Dafydd Wigley (Caernarvon) asked the Secretary of State for Prices and Consumer Protection, if he would lay down a standard price for a standard loaf of bread, to be charged universally irrespective of geographic location, to overcome current discrimination in bread prices against such areas where lack of competition allowed the wholesaler to charge the retailer higher prices than could otherwise be justified.

Mr Fraser replied that the cost of producing and distributing a standard loaf of bread must be expected to vary considerably between different areas and shops. A standard price for such bread would inevitably either be higher than was necessary in some circumstances or be so low that its sale would be unprofitable in other circumstances. He did not therefore think that the suggestion would be in the interests of consumers generally.

Manufacturing output prices

Tim Renton (Mid-Sussex) asked the Secretary of State for Prices and Consumer Protection, whether he will make a statement about the latest rise in manufacturing output prices which equals a year-on-year inflation rate well in excess of 20 per cent.

Mr Hattersley said that the all-items output index rose by 1 per cent in March to stand at 20¼ per cent on a year-on-year basis. The main upward pressure continued to come from food due to the huge surge in input costs, particularly for coffee, tea and cocoa. Over the past year tea and coffee prices had soared by over 200 per cent and cocoa by well over 100 per cent. It has important not to confuse the output index and the retail price index. The output index related to items manufactured in this country and excluded a large proportion of consumer purchases, such as rents, fares and various services, which went into the retail price index.

Heating oil

Mr. A. J. Beith (Berwick upon Tweed) asked how many increases in the price of home heating oil have been asked for, and how many approved, under the price code; and what has been the total percentage increase since 1970.

Mr Hattersley said that questions about the number of price increases notified to the Price Commission are for the Price Commission itself. Up to March 1977 the price of home heating oil rose by 276 per cent over the average for 1970.

International plugs standard

Mr McCrindle asked whether acceptance of the international standard system of 16-amp plugs would require the rewiring of domestic and business premises and, if so, over what sort of period it was likely to be absorbed and what would be the total cost.

Mr Fraser made it clear that the government had not taken a firm view on this issue. If the international standard were adopted, it would not require the rewiring of any premises. It would need to be implemented over a period of, perhaps. up to 60 years and would not, therefore, involve any additional cost. It would simply be swapping over to a new system with the rewiring or reconstruction of premises.

Pre-packaged goods

Evelyn King (South Dorset) asked the Secretary of State for Prices and Consumer Protection, when he proposes to seek to amend the Weights and Measures Act of 1963.

Mr Fraser said: 'I hope to seek to amend the 1963 act later this year in order to provide for the changeover from the minimum to the average system of control of pre-packaged goods.'

Price Commission recommendations

Jill Knight (Birmingham, Edgbaston) asked the Secretary of State for Prices and Consumer Protection what were the rules governing the overruling of a recommendation by the Price Commission.

Mr Hattersley said that under paragraph 6 of schedule 2 to the Counter-Inflation Act 1973, a secretary of state had power to permit a price increase when the Price Commission had used or was contemplating using its powers under section 6 of that act to restrict a price or charge, This might be done where, having consulted the Price Commission, the secretary of state was satisfied that there were exceptional circumstances which justified an intervention. These were the only circumstances in which the Price Commission could be overrruled.

Kirkby Workers' Co-operative

Kenneth Clarke (Rushcliffe) asked the Secretary of State for Industry, whether he was satisfied that the Kirkby Workers' Co-operative had exhausted its banking facilities or any possibility of raising further capital in the private market before he authorised a further grant to the co-operative.

Mr Cryer stated that it was not a condition precedent to assistance under the Industry Act 1972 that a company should have exhausted the resources of the private sector.

Assisted area unemployment

Kenneth Clarke (Rushcliffe) asked the Secretary of State for Industry, whether he will set out the level of unemployment in percentage terms at the latest available date for each of the assisted areas whose designation as intermediate, development or special development areas was changed by his announcement of 14 April 1977.

Mr Cryer gave the following information.

UNEMPLOYMENT PERCENTAGES FOR MARCH 1977

NEW INTERMEDIATE AREAS	
Aberdeen 'Travel to Work' area	3.7
Malton	4.1
Northallerton	4.1
Pickering	4.0
Richmond	5.8
Thirsk	4.4
NEW DEVELOPMENT AREAS	
Grimsby	6.2
Hull 'Travel to Work' area	7.5
Shotton 'Travel to Work' area	8.5
NEW SPECIAL DEVELOPMENT AREAS	
Arbroath	10.7
Cumnock	10.1
Dundee	8.5
Kilbirnie	12.3
Lanark	9.9

C. and A. Parsons

Neville Trotter (Tynemouth) asked the Secretary of State for Industry, whether he would visit Tyneside to discuss with the management and workforce of C. and A. Parsons the need for a decision as to the future of the turbine manufacturing industry.

Mr Cryer pointed out that ministers had been in consultation with the company's management and workforce following publication of the CPRS report on the power plant industry. Further consultation would be arranged as necessary.

Advance factory building

Kenneth Clark (Rushcliffe) asked what consultations had taken place between the Department of Industry and local authorities to co-ordinate the advance factory building programme.

Mr Cryer said consultation between regional directors of the department in the assisted areas and local authorities frequently took place on a day-to-day basis on the provision of advance factories and industrial sites.

Financial assistance

Sir Timothy Kitson (Richmond, Yorks) asked for the total amount of financial assistance given to the companies in Richmond and Northallerton employment areas through development grants in the years 1973, 1974, 1975, 1976 and 1977.

Mr Cryer said that detailed information on the amounts of regional development grants paid was available only by reference to standard regions, and was published each year in the annual report on the Industry Act 1972. A disproportionate cost and staff effort would be required to extract and analyse all payments by individual employment exchange areas. Details of individual grant payments in excess of £25,000 had been published each quarter in *Trade and Industry* with effect from the quarter ended 31 December 1974. One such payment had been recorded in the Richmond area, in the list for the quarter ended 31 December 1975; no such payments had been recorded for the Northallerton area.

Oil-mop device

Robert Adley (Christchurch and Lymington) asked what specific further steps had been taken to assist Oil Recovery International, of Christchurch, Dorset, following the meeting on 11 May 1976, where the ocean-going potential and development of Oil Recovery International's oil-mop device had been discussed.

Mr Cryer stated that since the meeting on 11 May, where development of the oil-mop ocean-going device was considered there had been continuing co-operation between Warren Spring Laboratory and, originally, Oil Mop (UK) Ltd. Subsequently, this co-operation had been with Oil Recovery International. The company had been offered facilities aboard the laboratory's research vessel *Seaspring* for the purpose of testing the company's equipment at sea. Arrangements had recently been made for an officer from the laboratory to visit the company's premises for the purpose of conducting land-based evaluation tests on three of the company's machines. Discussions were in progress between the company and the National Research Development Corporation with a view to initiating a joint venture to extend the range of conditions in which the oil-mop could be used.

Ekofisk anti-pollutants

Robert Adley (Christchurch and Lymington) asked the Secretary of State for Trade, what systems, other than detergents and dispersants, were being considered for use as anti-pollutants in connection with the Ekofisk incident.

Mr Clinton Davis said that the Department of Trade's resources for combatting oil at sea were based on dispersants, which had been proved to be effective in North Sea conditions. Warren Spring Laboratory was currently undertaking a two-year evaluation programme of the more promising oil containment and recovery equipment.

Robert Adley (Christchurch and Lymington) also asked for a list of the detergents and dispersants so far supplied for use in the North Sea on the Ekofisk spill and which companies had so far been consulted on the provision of anti-pollution materials or services.

Mr Clinton Davis pointed out that the government had not so far been requested by the Norwegian government to send any of its resources for clearing the spill. A Warren Spring Laboratory vessel in the area for research purposes, was equipped with approved dispersant, as were two vessels sent to the scene by the UK's Offshore Operators Association. Mr Clinton Davis also said that before this incident suppliers of approved concentrate dispersants had been consulted on the availability of additional stocks in the event of a major emergency. Since this incident, all major manufacturers had been consulted again to confirm the position.

Medical defence bodies

Mrs Lynda Chalker (Wallasey) asked if the medical defence bodies were carrying out insurance business as defined by the Insurance Companies Act 1974 and, if so, whether any assurance or an undertaking over their administration and financial status had been requested.

Mr Clinton Davis said that officials and legal advisers had been continuing their discussions with major medical defence bodies as to whether they were carrying on insurance business as defined in the Insurance Companies Act 1974. Until this question had been resolved it would not be appropriate to seek assurances or undertakings about their administration and financial status. The bodies had, however, indicated that they intended to ensure that their financial position was such that they would meet the requirements of the Insurance Companies Act.

International civil aviation

David Price (Eastleigh) asked the Secretary of State for Trade, what changes in the regulatory framework governing international civil aviation he intended to support following the special air transport conference in Montreal sponsored by the International Civil Aviation Organisation.

Mr Clinton Davis pointed out that the Special Air Transport Conference had not been concluded until 27 April and its recommendations would now have to be put before the Council of the International Civil Aviation Organisation for consideration. Accordingly, no immediate changes in the regulatory framework governing international civil aviation were envisaged.

Safer aircraft fuel

Neville Trotter (Tynemouth) asked what extent public funds were being used to finance research into the development of anti-misting kerosene as a safer aircraft fuel; when he expected the fuel to be ready for marketing; and whether he was satisfied that adequate funds were available for this project.

Mr Clinton Davis replied that a programme of research into anti-misting kerosene (AMK) had been in progress in the UK since the late 1960s supported by the Ministry of Defence and the Department of Industry. Payments last year by HMG were approximately £190,000. Initial fire suppression trials with AMK were encouraging but a number of technical and economic problems had still to be overcome. Should sufficient progress be made, the question of adopting such a fuel would have to be approached on a worldwide

basis and the resulting international agreements could take many years to bring about. This timescale was not significantly affected by the level of contributions from HMG.

Plaistow helicopter crash

Nigel Spearing (Newham South) asked the Secretary of State for Trade, about the helicopter crash in Plaistow on 27 April.

Mr Clinton Davis stated that a team from the Accidents Investigation Branch of the Department of Trade commenced work at the site on the day the accident occurred and the Chief Inspector of Accidents would decide whether an inspector's investigation would be carried out when the team had reported to him. In any case, an AIB bulletin containing the circumstances and facts relating to the accident would be published in the normal way and, if an inspector's investigation was ordered, a full report would be submitted to the Secretary of State for Trade in due course. In that event the secretary of state would decide whether, in accordance with normal practice, the report would be published. The relevant statutes concerned with safety standards for helicopters were the Air Navigation Order 1976 and the regulations made thereunder.

Cutlery and silverware imports

John Osborn (Sheffield, Hallam) asked the Secretary of State for Trade, what discussions he had had with governments of countries in the EEC and the commission about restriction of cheap imports of cutlery and silverware.

In reply, Mr Meacher said that he had had no such discussions. The Japanese had renewed for 1977 their long-standing restraint on exports of stainless steel tableware to the UK which was working satisfactorily. Most, though not all, other members of the EEC had restrictions on imports of cutlery; except in two cases these restrictions applied only to imports from Japan.

Inflatable liferafts

Neville Trotter (Tynemouth) asked whether Department of Trade surveyors had refused to licence fishing vessels unless their inflatable liferafts were of UK manufacture and contained instructions in English.

Mr. Clinton Davis stated that there was no record of a fishing vessel certificate being refused solely on the grounds in question. Under the Fishing Vessels (Safety Provisions) Rules 1975 inflatable liferafts, including those of foreign manufacture, must comply with the standards for life-saving appliances and equipment which required survival instructions to be printed in English. Certain approved types of inflatable liferafts of foreign manufacture were accepted under the rules. These requirements embodied in the 1975 rules were not new: they had applied since 1958 to all liferafts carried on board fishing vessels. He went on to say that some flexibility in the implementation of the rules was permitted with particular regard to inflatable liferafts and any owner experiencing difficulties in this connection should seek the advice of the local fishing vessel surveyor.

Cotton yarn from Bangladesh

Doug Hoyle (Nelson and Colne) asked what proposals there were for the increase in the quota for yarn and cloth imports from Bangladesh.

Mr Meacher replied that the UK's long-standing quota on cotton yarn from Bangladesh expired on 31 March 1977. Imports of this product, which were not giving rise to immediate concern, would now be closely monitored by surveillance licensing and should imports threaten to reach disruptive levels, the re-introduction of a quota would be immediately considered for urgent action. A basket quota which included woven cotton cloths and woven cotton garments and made-ups, had been set at 736,835m² for the remainder of 1977. If utilised solely for cotton cloth the quota would represent less than 0.2 per cent of total UK imports of this commodity during 1976, and if used for woven cotton garments and made-ups, the percentage would be even smaller. This quota represented a growth of 6 per cent on the previous year's quota which was in line with the minimum required under the multifibre arrangement.

Doug Hoyle (Nelson and Colne) also asked what had been the UK's imports of yarn and cloth, respectively, from Bangladesh annually since it became independent.

Mr Meacher said that there had been no imports to the UK of cotton fabric (SITC 652) in the years since independence for which statistics were available (since 1973), and only 45 metric tons of cotton yarn (in 1976). Imports of other cotton products, for which detailed statistics could be provided only at disproportionate cost, were very small.

Tuesday, 3 May

Sector working parties

Kenneth Clarke (Rushcliffe) inquired whether all sector working parties of the National Economic Development Organisation would be asked to publish their reports.

Mr Cryer said the sector working parties were aware of the need to publish appropriate information about their work. The reports submitted at the end of last year were interim documents which were not necessarily intended for publication. The working parties were given assurances that their work would not be made public without their approval and the decision whether to publish or not rested with them.

Assisted areas

Michael Marshall (Arundel) asked for a list of all the existing intermediate areas, development areas, and special development areas following the recent changes announced on 14 April.

Mr Cryer replied that the assisted areas as at 14 April 1977 were as follows:

Intermediate areas (IAs)
South West IA
North West IA
Yorkshire and Humberside IA
North Midlands IA
High Peak IA
North Lincolnshire IA
Oswestry IA
Aberdeen IA
North Wales IA
South East Wales IA

Development areas (DAs)
South West DA
Hull and Grimsby DA
Whitby and Scarborough DA
Northern DA
Scottish DA
Welsh DA

Special development areas (SDAs)
Merseyside SDA
North East SDA
West Cumberland SDA
West Central Scotland SDA
Girvan SDA
Leven and Methil SDA
Glenrothes SDA
Livingston SDA
Dundee and Arbroath SDA
South Wales SDA
North West Wales SDA

Industrial development certificates

Michael Marshall (Arundel) asked how many firms in each county unsuccessfully applied for industrial development certificates during the last 12 months.

Mr Cryer said that during the 12 months to 31 March 1977 three applications for industrial development certificates for Greater London and one application for each of the counties of Avon, Buckinghamshire, Hampshire, Hertfordshire, Leicestershire and West Midlands were unsuccessful. These included two applications in respect of projects for the replacement of obsolete factories which did not fully satisfy the criteria for such schemes.

BAe public dividend capital

Russell Kerr (Feltham and Heston) asked the Secretary of State for Industry whether he has paid any public dividend capital to British Aerospace.

Mr Varley said he had with the approval of the Treasury paid to British Aerospace £27 million of public dividend capital, which together with advances from the national loans fund would enable it to repay loans to one of the parents of the vesting companies. The public dividend capital had been provided out of the contingencies fund. He would be seeking the approval of the house of a supplementary estimate in due course. In the meantime any further advances of public dividend capital would also be provided out of the contingencies fund.

Bermuda convention

Peter Viggers (Gosport) asked for a statement on the renegotiation of the Bermuda convention.

Mr Clinton Davis replied that the fifth round of negotiations with the United States for a new air services agreement was held in Washington from 28 March to 22 April. Some progress was made on most aspects of the new agreement, but several of the main issues had still to be resolved. Negotiations would resume in London on 16 May and he hoped it would be possible to reach agreement in principle before the old agreement ran out on 22 June.

London-Houston air link

Peter Viggers (Gosport) asked the Secretary of State for Trade about plans to encourage a direct air link between London and Houston, Texas; and for an estimate of current passenger and air freight between London and Houston.

Mr Clinton Davis said this route had been proposed by both the UK and the United States for inclusion in the new air services agreement. He was confident that British Caledonian would be able to start its service when it wanted to. He also said that the Civil Aviation Authority estimated that total air traffic between London and Houston in the year ending 31 December 1976 was 60,000 passengers and 4,000 to 5,000 tonnes freight.

Heathrow traffic

Robert Adley (Christchurch and Lymington) asked how many weekly traffic movements, passenger and freight, had taken place at Heathrow Airport on average each week over the last 12 months of the following aircraft types: Boeing 707, Boeing 747, Concorde, Douglas DC8 and VC10.

Mr Clinton Davis gave the following information for average weekly movements during 1976:

Boeing 707	463
Boeing 747	463
Concorde	7
DC8	147
VC10	131

Nationalised industries' exports

Harry Cowans (Newcastle upon Tyne Central) asked what facilities were available to nationalised industries to help them to develop their export potential.

Mr Meacher said the full range of government export services and promotional aids and the services provided by the Export Credits Guarantee Department were available to the nationalised industries. He pointed out that the Secretary of State for Trade said on 8 February (*Trade and Industry*, 18 February 1977, page 426) that the government welcomed the formation of the Nationalised Industries Overseas Group which should provide better co-ordination and impetus to the efforts of the nationalised industries to work together and with the private sector to the benefit of UK exports.

Margins for potatoes and vegetables

Eddie Loyden (Liverpool, Garston) asked the Secretary of State for Prices and Consumer Protection, what action he proposed after consideration of the Price Commission's recent report on the prices and distributors' margins for potatoes and other vegetables.

Mr Fraser said that the latest report from the Price Commission indicated that, although vegetable prices were much higher in the period considered than at the same time the previous year, distributors' gross cash margins were, in aggregate, reduced for the six vegetables examined. There was therefore little reason to think that distributors had been acting unreasonably.

Compliance with Price Code

Harry Cowans (Newcastle upon Tyne Central) asked how many of the larger firms who were required to give the Price Commission regular information necessary for monitoring their compliance with the Price Code were in fact supplying this information; and how frequently this information was required to be supplied.

Mr Fraser replied that persons specified in article 4 of the Counter-Inflation (Prices and Charges) (Information) Order 1976 were required under article 5 of that order to furnish to the Price Commission returns on an approximately quarterly basis. All the firms covered by this requirement had been supplying the necessary information.

Wednesday, 4 May

Protection for insurance policyholders

Michael Ward (Peterborough) asked the Secretary of State for Trade, if he would make a statement concerning the protection afforded to insurance policyholders from unfair treatment as a result of the terms of insurance contracts.

In reply Mr Clinton Davis said that in general he considered that the insurance industry had a good record in treating policyholders fairly. But, in view of the proposed new legislation on contract terms in other fields, he had asked the British Insurance Association and Lloyd's to consider drawing up a statement of practice in the field of personal non-life insurance to cover certain matters. He welcomed the fact that the BIA and Lloyd's had now drawn up the following statement of insurance practice which they were recommending to their members:

STATEMENT OF INSURANCE PRACTICE

This statement is restricted to non-life insurances of policyholders domiciled in the UK and insured in their private capacity only.

1 **Proposal Forms**

a The declaration at the foot of the proposal form should be restricted to completion according to the proposer's knowledge and belief.

b If not included in the declaration, prominently displayed on the proposal form should be a statement:

i drawing the attention of the proposer to the consequences of the failure to disclose all material facts, explained as those facts an insurer would regard as likely to influence the acceptance and assessment of the proposal;

ii warning that if the proposer is in any doubt about facts considered material, he should disclose them.

c Those matters which insurers have found generally to be material will be the subject of clear questions in proposal forms.

d So far as is practicable, insurers will avoid asking questions which would require expert knowledge beyond that which the proposer could reasonably be expected to possess or obtain or which would require a value judgment on the part of the proposer.

e Unless the prospectus or the proposal form contains full details of the standard cover offered, and whether or not it contains an outline of that cover, the proposal form shall include a statement that a copy of the policy form is available on request.

f Unless the completed form or a copy of it has been sent to a policyholder, a copy will be made available when an insurer raises an issue under the proposal form.

2 **Claims**

a Under the conditions regarding notification of a claim, the policyholder shall not be asked to do more than report a claim and subsequent developments as soon as reasonably possible except in the case of legal processes and claims which a third party requires the policyholders to notify within a fixed time, where immediate advice may be required.

b Except where fraud, deception or negligence is involved, an insurer will not unreasonably repudiate liability to indemnify a policyholder:

i on the grounds of non-disclosure or misrepresentation of a material fact where knowledge of the fact would not materially have influenced the insurer's judgment in the acceptance of assessment of the insurance;

ii on the grounds of a breach of warranty or condition where the circumstances of the loss are unconnected with the breach.

The previous paragraph does not apply to marine and aviation policies.

3 **Renewals**

Renewal notices should contain a warning about the duty of disclosure including the necessity to advise changes affecting the policy which have occurred since the policy inception or last renewal date, whichever was the later.

4 **Commencement**

Any changes to insurance documents will be made as and when they need to be reprinted, but the statement will apply in the meantime.

5 **EEC**

This statement will need reconsideration when the EEC Contract Law Directive is taken into English/Scots Law.

Mr Clinton Davis also said that the chairman of the Life Officers' Association had also written to him, on behalf of the three life associations involved, to express their willingness to consider drawing up within the next few weeks a parallel statement of practice relating to life assurance.

Motor vehicles to Malaysia

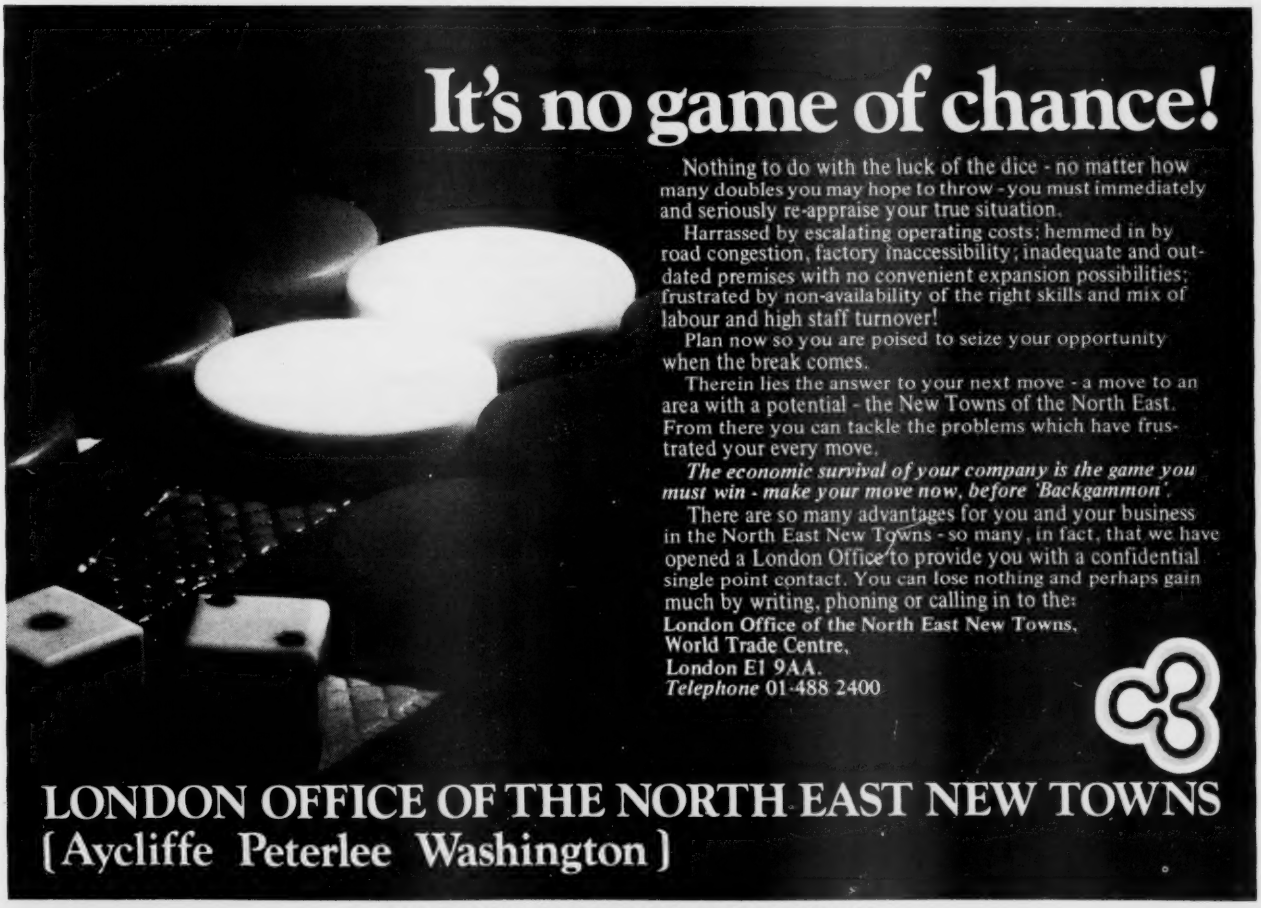
Michael Shersby (Hillingdon, Uxbridge) asked the value of exports of motor vehicles of every kind to Sabah for the year ended 31 December 1976.

Mr Meacher pointed out that Sabah was not shown separately in the overseas trade statistics and said that exports of cars and commercial vehicles to Malaysia were valued at £16.3 million.

Company inspectors

Sir Brandon Rhys Williams (Kensington and Chelsea, Kensington) asked the Secretary of State for Trade, what steps he took to investigate the suitability of potential appointees as inspectors to investigate the affairs of companies; and if he would publish details of their remuneration and terms of service.

In reply, Mr Clinton Davis said that accountant inspectors were appointed after consideration as to their suitability for the particular case and, if necessary, after consultation with their professional body. In the case of legal inspectors, who were either members of the bar or solicitors, it was the normal practice to make appointments after consultation with the Attorney General. Renumeration was negotiated with the accountant inspectors individually, taking into account the complexity of the investigation and the status of the supporting staff required. Similarly, the remuneration of legal inspectors had regard to their experience and standing. Inspectors who were departmental employees received no additional remuneration. The terms of service of all inspectors, he said, were to investigate the affairs of specified companies and to report in such manner as the secretary of state might direct.


It's no game of chance!
Nothing to do with the luck of the dice - no matter how many doubles you may hope to throw - you must immediately and seriously re-appraise your true situation.
Harrassed by escalating operating costs; hemmed in by road congestion, factory inaccessibility; inadequate and outdated premises with no convenient expansion possibilities; frustrated by non-availability of the right skills and mix of labour and high staff turnover!
Plan now so you are poised to seize your opportunity when the break comes.
Therein lies the answer to your next move - a move to an area with a potential - the New Towns of the North East. From there you can tackle the problems which have frustrated your every move.
The economic survival of your company is the game you must win - make your move now, before 'Backgammon'.
There are so many advantages for you and your business in the North East New Towns - so many, in fact, that we have opened a London Office to provide you with a confidential single point contact. You can lose nothing and perhaps gain much by writing, phoning or calling in to the:
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World Trade Centre,
London E1 9AA.
Telephone 01-488 2400
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Minimum prices for steel

Frank Hooley (Sheffield, Heeley) asked about the progress of discussions within the European Coal and Steel Community on the fixing of minimum prices for steel.

Mr Huckfield replied that on 3 May the commission consulted the council of ministers on its proposal to introduce mandatory minimum prices for concrete reinforcing bars under article 61 of the treaty of Paris. It was now for the commission to decide what action to take in the light of the views expressed.

Petrol prices

Stephen Ross (Isle of Wight) asked the Secretary of State for Prices and Consumer Protection, whether he will institute an inquiry into the way petrol prices were fixed in various parts of the country and the matter of retailers' profit margins.

Mr. Fraser replied that the Department of Prices and Consumer Protection had already held an inquiry into petrol prices in co-operation with the Departments of Energy and Industry. Motor fuel retailers' margins were the subject of a separate study by the Price Commission. The results of these inquiries had been published. The Monopolies and Mergers Commission were at present investigating certain matters relating to the wholesale supply of petrol. He did not consider that any further inquiry was necessary at present.

Thursday, 5 May

Retention of title

Douglas Crawford (Perth and East Perthshire) asked a number of questions on the increasing use by companies of the 'Retention of Title' clauses in conditions of sale and contract.

Mr Clinton Davis replied that in several European countries, notably the German Federal Republic and the Netherlands, the sale of goods subject to retention of title clauses was a long-established and widespread practice; the practice was also growing in the UK. The spread of retention of title clauses had wide implications, and Department of Trade officials were engaged in discussions with a number of bodies, including the CBI, which had set up a study group on the subject, the Committee of London Clearing Bankers, and with the professional practitioners in insolvency. The Consultative Committee of Accountancy Bodies had issued a guidance statement on 28 September 1976 on accounting for goods sold subject to reservation of title: attached to that statement was a note by the Inland Revenue on the tax treatment of such transactions. The practice of the nationalised industries with regard to the use of these clauses was a matter for their boards.

Mr Clinton Davis also said that the implications of the use of retention of title clauses for the law on insolvency were being considered by the Insolvency Law Review Committee, appointed by the Secretary of State for Trade, under the chairmanship of Mr Kenneth Cork. There was some interest in the EEC on this subject, notably in connection with the draft European bankruptcy convention and the draft directive on the recognition of securities over moveables, but implementation of these instruments would lead only to a limited degree of harmonisation of the different laws and practices within the EEC governing the use of retention of title clauses. He understood that the Scottish Law Commission was giving some consideration to the question following the publication in August 1976 of it-consultative memorandum on corporeal moves ables – passing the risk and ownership. Its report would no doubt discuss any differences there were between Scots and English law on this matter. Mr Clinton Davis said he also understood that the Office of Fair Trading had given some consideration to proposals by certain trade associations to recommend to their members the use of retention of title clauses in standard conditions of contract. Further questions on the Scottish legal aspects and the fair trading implications should be addressed to the Ministers concerned, he added.

In conclusion, he said it was clear that wide-ranging consideration was being given to the effect of the spread of retention of title clauses. It was too early to say what action, if any, it might be appropriate for the government to take to deal with any problems which might arise due to the growth of this practice.

Footwear exports

John Garrett (Norwich South) asked for the level of British footwear exports to Japan and British footwear imports from Japan.

Mr Meacher said that in the first quarter of this year, 1,200 pairs were exported at a value of £7,500 fob and 465,000 pairs were imported valued at £325,000 cif. The government would continue to urge Japan to remove restrictions on the import of leather footwear. 'During his recent visit to Tokyo, my rt hon friend strongly urged the Japanese to accept imports of our manufactured goods as freely as their own exports of manufactured goods are accepted abroad and as our exports are accepted in other advanced industrialised countries,' said Mr Meacher.

UK enterprises' output

Nicholas Ridley (Cirencester and Tewkesbury) asked, further to the information published on page 804 and 805 of Trade and Industry *for 25 March, for estimates of net output per head in domestically-owned enterprises in orders II to XIX both in aggregate and order by order for the latest year for which information is available.*

Mr Huckfield gave the following latest information for 1971:

Net output per head in UK enterprises (a)

SIC	Industry	Net output per head (£)
Orders II-XIX	Mining, quarrying and all manufacturing	2,421
Order II	Mining and quarrying	1,881
Orders III-XIX	All manufacturing industries	2,450
Order III	Food, drink and tobacco	3,135
Order IV	Coal and petroleum products	5,317
Order V	Chemicals and allied industries	4,308
Order VI	Metal manufacture	2,308
Order VII	Mechanical engineering	2,459
Order VIII	Instrument engineering	2,108
Order IX	Electrical engineering	2,288
Orders X-XI (b)	Shipbuilding and marine engineering, vehicles	2,227
Order XII	Metal goods not elsewhere specified	2,223
Order XIII	Textiles	1,902
Orders XIV-XV (b)	Leather, leather goods and fur, clothing and footwear	1,461
Order XVI	Bricks, pottery, glass, cement, etc	2,729
Order XVII	Timber, furniture, etc	2,381
Order XVIII	Paper, printing and publishing	2,678
Order XIX	Other manufacturing industries	2,242

Source: Census of Production for the United Kingdom 1971.
(a) Enterprises whose parent company is registered in the UK.
(b) The figures for Orders X and XI, and Orders XIV and XV have been aggregated to prevent disclosure of information about individual undertakings.

Overseas trade news

Protectionism rejected by summit conference

A commitment to provide strong political leadership to expand opportunities for trade was one of seven points in a declaration issued by the seven heads of government at the close of the Downing Street summit on 8 May.

They were also committed to strengthening the open international trading system. Achievement of these goals, they said, was central to world economic prosperity and the effective resolution of economic problems faced by both developed and developing countries of the world.

'We reject protectionism' the declaration continued, 'it would foster unemployment, increase inflation, and undermine the welfare of our peoples.'

The heads of government said they would give a new impetus to the Tokyo round of multilateral trade negotiations. They would seek this year to achieve substantive progress in such key areas as:

- a tariff reduction plan of broadest possible application designed to achieve a substantial cut and harmonisation and in certain cases the elimination of tariffs;
- codes, agreements and other measures that would facilitate a significant reduction of non-tariff barriers to trade and the avoidance of new barriers in the future and that would take into account the structural changes which have taken place in the world economy;
- a mutually acceptable approach to agriculture that would achieve increased expansion and stabilisation of trade, and greater assurance of world food supplies.

Such progress should not remove the right of individual countries under existing international agreements to avoid significant market disruption.

More jobs

They said their most urgent task was to create more jobs while continuing to reduce inflation. They also committed their governments to stated economic growth targets or to stabilisation policies which, taken as a whole, should provide a basis for sustained non-inflationary growth, in their own countries and world-wide and for a reduction in international payments.

The heads of government agreed that improved financing facilities were needed, and that the International Monetary Fund must play a prominent part in balance of payments financing and adjustment.

'We commit ourselves,' the declaration says, 'to seek additional resources for the IMF and support the linkage of its lending practices to the adoption of appropriate stabilisation policies.'

Finally the heads of government stated that the world economy could only grow on a sustained and equitable basis if developing countries shared in that growth. 'We are all agreed,' the declaration continued, 'to do all in our power to achieve a successful conclusion of the CIEC (Conference on International Economic Co-operation) and we commit ourselves to a continued and constructive dialogue with developing countries. We aim to increase the flow of aid and other real resources to those countries. We invite the Comecon countries to do the same.'

They affirmed their support for multilateral institutions such as the World Bank 'whose general resources should be increased sufficiently to permit its lending to rise in real terms. We stress the importance of secure private investments to foster world economic progress.'

Trade with Austria, Dell urges

Edmund Dell, Secretary of State for Trade, at the end of his Austrian visit on 6 May encouraged British businessmen 'to think positively' about the Austrian market.

The level of trade between the two countries, he said, had declined in relative importance and was lower than the UK's trade with almost every other developed west European country. It was, for example, only half the level of her trade with Switzerland.

Mr Dell acknowledged that there had undoubtedly been some diversion of the UK's trade to EEC countries. But there was scope for more trade with Austria and he was pleased to note that there had been an increase in the UK's exports to Austria in 1976.

Mr Dell looked forward to more trade missions between the two countries and drew attention to the possibilities of co-operation in ventures in third countries.

During his visit Mr Dell met Dr Staribacher, the Austrian Minister of Trade and Industry, the Minister for Agriculture and Forestry and leading members of Austrian business and commerce and trade unions. He also called on the Federal President, Dr Kirchschläger.

UK-Czech trade should be encouraged

At the fifth session of the UK-Czechoslovak joint commission, held in London from 25 to 29 April, both delegations re-affirmed the determination of their governments to encourage a sustained increase in trade. The joint chairmen were Lionel Lightman, under secretary in the Department of Trade, and Mr E. Gajdos, director-general in the Czechoslovak Federal Ministry of Foreign Trade. The British delegation included representatives from industry as well as government officials.

The joint commission reviewed the general development of trade and industrial, technological and scientific co-operation between the UK and Czechoslovakia in the period since its last meeting in March 1976. It agreed that despite the modest increase in trade that had taken place since its last meeting, the present level of trade still fell short of the potential afforded by the economies of the two countries.

During the discussions particular attention was paid to recent developments and prospects for future co-operation in the metallurgical, machine tool, chemical and petrochemical, electronics and automation, agricultural, automotive engineering and energy sectors. Specific opportunities for trade and co-operation were discussed in a number of these areas and it was noted that in several sectors visits or other promotional activities had either taken place during the year under review or were planned for the future.

The next meeting of the joint commission will be held in Prague during the second quarter of 1978.

US product liability insurance

Some UK exporters are experiencing difficulties in obtaining product liability insurance for their exports to the United States. The Department of Trade is currently investigating the situation and is inviting written comments from UK exporters who have experienced problems in this area.

The department has asked if the following information could be supplied.

1 A brief description of the goods exported to the United States.

2 Value of annual sales to the United States of the goods concerned.

3 Nature of difficulty in obtaining product liability insurance for the United States market (eg excessive cost of insurance, or unwillingness of unsurers to provide product liability insurance to UK firms or their agents or distributors).
4 Effect on export sales, prices, and company policy.
5 Brief details of any product liability actions brought in the United States involving the exports concerned.

The Department of Trade will treat all details provided in strict confidence. Comments should be sent by 30 June 1977 to Mr G. R. Wilson, Commercial Relations and Exports Division, Department of Trade, Room 423, 1 Victoria Street, London SW1H 0ET, tel. 01-215 3365.

Inward missions in May

During May, seven trade missions comprising over 80 overseas businessmen and women from Europe, Africa and the United States, will visit the UK under the British Overseas Trade Board's inward mission scheme.

The interests of the mission members cover a wide range of industrial and commercial sectors including building materials, electronic components, finance and banking, foodstuffs, footwear, plastics processing machinery and machine tools.

The visitors will spend between three days and a fortnight visiting factories and trading concerns in many parts of Britain including Edinburgh, Newcastle, Manchester, Sheffield, Birmingham, Nottingham and London.

Hungarian visitors see fire-fighting demonstration

On the roof of a Pathfinder fire appliance at the Chubb Fire Security works at Feltham are members of a party of visitors from the Hungarian Ministry of Transport and Posts, led by Dr Kalman Abraham (right). The visitors, who were guests of the British Overseas Trade Board and were here from 18-23 April, saw several fire-fighting demonstrations featuring the Pathfinder.

BOTB chairman to visit UK exhibitors at Dusseldorf

Sir Frederick Catherwood, chairman of the British Overseas Trade Board, will visit the British stands at the Dusseldorf international printing machinery exhibition (Drupa) which takes place from 3 to 16 June. Britain will be the second largest foreign country participating at this year's event where the BOTB joint venture of 52 firms – some 30 of them exhibiting for the first time at Drupa – is co-sponsored by the British Printing Machinery Association.

Sir Frederick will tour the British stands and the whole exhibition on 14 and 15 June. This will be his first attendance at an overseas trade fair since he became chairman of the British Overseas Trade Board in May 1975.

Alan Williams, Minister of State, Department of Industry, will visit the joint venture display on 13 June.

UK hi-fi at Chicago

New developments in British hi-fi equipment will be shown at the Chicago summer consumer electronics show which takes place from 5 to 8 June. Sponsored by the British Overseas Trade Board in collaboration with the Federation of British Audio, 22 companies will be showing a large selection of British products ranging from loudspeakers and amplifiers to turntables and record cleaning processes.

New equipment
Companies introducing new equipment at the show include KEF Electronics Ltd, Maidstone, Kent, displaying its new model 105 loudspeaker, and A. R. Sugden Ltd, Brighouse, showing the BD 103 turntable – a variable-speed unit powered by a dc motor with electronic speed stabilisation. Monitor Audio Ltd of Cambridge is introducing an electronic turntable, the ET 1000, claimed to be the first with a binary readout scale for fine adjustment and a LED strobe.

New companies
Six companies will be exhibiting at the show for the first time including Goodmans Loudspeakers Ltd from Havant. Established for over 50 years and now Britain's largest manufacturers of loudspeakers, Goodmans' display will include a hi-fi cabinet system and a discotheque speaker system.

The consumer electronics show is a major event – in 1976 it attracted over 47,000 visitors from Europe, the Far East and north and south America.

Business opportunities in China

A conference on business opportunities in China is being organised by the Confederation of British Industry in association with the Sino-British Trade Council on 21 June at Quaglino's.

The conference is planned to give the businessman information on the background to the market, methods of approach, finance, improving export efforts and British export successes. As China emerges from recent problems, indications are that there could be new opportunities for British businessmen and now is the time to consider new approaches to the market.

Speakers
The speakers will be introduced by Mr G. V. K. Burton, chairman of Fisons and chairman of the CBI overseas committee. Sir John Keswick, vice-president of the Sino-British Trade Council, will head a panel of experts to answer questions.

The conference will end with a speech from Margaret Thatcher, leader of the Conservative party, who visited China recently.

Further details can be obtained from Mrs C. A. Horsburgh, Overseas Directorate, Confederation of British Industry, 21 Tothill Street, London SW1H 9LP, tel. 01-930 6711.

Seminar: exporting mobile construction equipment

Technical Help to Exporters (THE), the export advisory service of the British Standards Institution, is organising a one-day seminar on the export of mobile construction equipment. The seminar, organised in conjunction with trade associations and the Institution of Mechanical Engineers, will be held at the Wembley Conference Centre, London, on 16 June 1977.

The market for mobile construction equipment is worldwide but THE says, because of the special safety and environmental considerations such as stability, operator protection, noise and fumes emission, many countries have stringent legal requirements affecting design and construction.

The THE seminar will inform exporters about these requirements and the countries to be covered are France, West Germany, the Netherlands and Sweden. Approval procedures for each country will also be described. Experts from approval organisations in Germany, the Netherlands and Sweden will present papers and there will also be a paper from the French National Institute of Research and Safety. A speaker from the UK Health and Safety Executive will consider the latest EEC directives concerning mobile construction equipment.

Further information is available from Promotion Services Department, British Standards Institution, Maylands Avenue, Hemel Hempstead, Herts, tel. Hemel Hempstead 3111.

Car components: potential in Japan

To help redress the balance of trade between the UK and Japan, Britain's car components industry is making major efforts to open up the Japanese market. This week a UK components exhibition opens at the British Export Marketing Centre in Tokyo and a Society of Motor Manufacturers and Traders' mission is visiting Japan. Earlier this year SMMT were hosts to an inward mission from Japan, as first secretary (commercial) at the British embassy in Tokyo, Merrick Baker-Bates reports.

Members of the Japanese car components mission examining the diesel engines assembly line at Perkins Engines with production manager Brian Mairs (second left).

Last year Britain exported over £1,500 million-worth of automobile components and accessories. Of this total the Japanese only took a meagre £5.3 million.

Against this background and the recent trade discussions between Japan and the UK the Society of Motor Manufacturers and Traders (SMMT) and the British Overseas Trade Board invited the Japan Automobile Manufacturers' Association (Jama), to send a mission to Britain to see the products which the UK component and accessory manufacturers have been selling so successfully in other countries.

The 10-member mission, led by Masao Nemoto, Toyota's managing director of purchasing, began their programme on 21 March. All were senior executives responsible for purchasing in their respective companies. Seven of them had already spent two weeks in France as part of a much larger delegation covering several industries, sponsored by Japan's Ministry of International Trade and Industry.

The programme in Britain drawn up by the SMMT was heavy and in 19 days the mission travelled over 2,000 miles, visiting 14 companies, touring factories on each occasion, hearing three presentations at their hotel, visiting the Autoquip exhibition at Wembley and meeting the UK representatives of their respective companies.

All the presentations including the slide shows and films with dialogues in Japanese, the carefully prepared documentation (again largely in Japanese), the comprehensive range of products exhibited and, perhaps most important of all, the tours of the factories themselves, left the visitors in no doubt about the keenness of British industry to sell to them. As one senior executive put it, trade is about buying and selling and the British expected them to buy.

The mission responded to this challenge with vigour, proving to be a very knowledgeable and inquiring audience. They explored the sale of automobile components from every angle – one remembers particularly the 30-odd questions asked at a presentation late on a Saturday afternoon. They inquired about management philosophy they scrutinised accounts and asked about research development costs. Labour relations proved a topic of particular interest, and they met works convenors and shop stewards for private talks.

In short, both sides made maximum use of the time available to get to know each other in depth. For this was the first time that a mission of Japanese car manufacturers had spent so long looking at the components and accessories industry of a single country. The visitors were therefore very conscious that they were setting a precedent and that a great deal of attention was being focused on them.

Not surprisingly, Mr Nemoto and his colleagues did not reach any final conclusions about the possibilities for future business. But they left behind them about 20 requests for estimates and 10 for samples. And they took back to Japan four important impressions.

First, to their surprise they found that labour relations in the components industry were good and in many respects resembled those in their own factories.

Second, it was agreed by both sides that automotive components, in Mr Nemoto's words, could not be bought and sold quickly like butter or cheese. Significant levels of British exports to Japan will take time to develop.

Third, the mission were much impressed by what they saw of the companies research and development, particularly the development of parts designed especially for Japanese vehicles.

Finally, while leaving their hosts in no doubt about the very demanding standards which Japanese manufacturers required of their suppliers, the mission came away very much aware of British industry's confidence that it could meet these standards.

What of the future? It will clearly take some time for the mission to digest the mass of information which they have taken home with them. Decision-making in Japan is often a long drawn out process and any optimism generated in an atmosphere of such evident good will should be treated with caution. But the prospects for worthwhile trade must surely be better than ever before.

Certainly the Japanese manufacturers now know vastly more about the British components and accessory industry than they did before the Jama mission. They are actively considering setting up liaison offices in Europe with buying as their business. And they have made it clear that they want to see more of their potential British suppliers coming to Japan.

The joint communiqué at the end of the mission spoke of the visit as marking a turning point in Anglo-Japanese relations in its field. There is every reason to hope that the first steps have been taken towards broadening trading relations in components between the two countries.

Finance for technology

The National Research Development Corporation provides financial and other support for technological developments of potential commercial importance. NRDC promotes the adoption by industry of new products and processes invented in government laboratories, universities and elsewhere. NRDC is participating in joint ventures with industry on an increasing scale. By supporting projects NRDC makes it possible for individual firms or groups of companies to undertake and accelerate the development and production of new products and processes of national importance. The corporation welcomes submissions in confidence from firms who have promising new projects to launch in any branch of industry or commerce. The conditions for its considering proposals of this kind are set out in a leaflet which may be obtained on application, either by writing to the National Research Development Corporation, Kingsgate House, 66-74 Victoria Street, London SW1E 6SL, or by telephoning 01-828 3400.

Overseas trade exhibitions

Hanover: 'market of the world'

From Mr P. L. F. Edwards, British consulate-general, Hanover

The Hanover fair celebrated its thirtieth anniversary this year. In 1947 the event was held in a disused factory and four British Army marquees, and covered a total area of some 21,500m². There were 1,298 exhibitors (German only) and visitors totalled 73,600 Germans and 4,000 foreigners. Restaurant and bar facilities as such, provided by the British Control Commission, were strictly for foreigners only. The idea of the fair originated with control commission officials, especially the Economic Adviser, Sir Cecil Weir.

Now in 1977 the Hanover fair is justifiably referred to as the 'market of the world', with foreign participation reaching some 23 per cent among the direct exhibitors. It was held this year from 20 to 28 April. Products from 5,686 companies were shown in 24 halls and open spaces, covering a total area of nearly 1 million m².

The 1977 fair was opened by the President of the Federal Republic of Germany, Walter Scheel. The UK was again the largest foreign participant, with approximately 150 firms exhibiting on nine joint-venture stands, sponsored by relevant trade associations and organised by the British Overseas Trade Board. There were also 30 independent exhibitors and a further 80 British firms represented, a total of say 250, followed by Switzerland (202), Italy (191) and France (167). The British industrial development organisations, the Midland Bank and Tozer-Kemsley Milbourne GmbH were also once again well represented in the international hall. The British consulate-general, Hanover, mounted a busy information stand where telex facilities and reference books were available.

Although a few British exhibitors were new to Hanover, most were well-established, and were in the main therefore here to meet existing customers and to contact potential new ones.

Michael Meacher, Parliamentary Under-Secretary of State for Trade, visited the fair for the first two days (see *Trade and Industry* 6 May, page 234) and, accompanied by the consul-general, Mr A. K. Mason, called upon almost all British firms in the joint ventures.

The British companies were, with one or two exceptions, pleased with their positions in their respective halls, more especially with the new open stand design which tended to give a feeling of more space.

SIRA institute and their sponsored exhibitors exhibiting a range of highly specialised and sophisticated electronic, analysing and measuring instruments and devices did particularly well.

With the Lighting Industry Federation and the Decorative Lighting Association, the majority of the 24 exhibitors felt that business was down on last year. A few firms, however, had done much better than previously. The difference lay largely between manufacturers of domestic decorative lighting and industrial lighting. Domestic decorative lighting is naturally dependent on fashion trends. Relatively few lighting retailers or wholesalers appeared, and inquiries received were disappointingly low as the German lighting retail trade is probably being rather cautious over holding stocks.

The Business Equipment Trade Association group felt that the number of visitors had decreased, but that the all-important standard of inquiries had improved considerably.

There were two Birmingham groups, one from the Birmingham Chamber of Commerce and Industry and the other from the Birmingham Engineering and Building Centre respectively. The former covered forklifts, conveyors, belting and similar lines, and words like 'wonderful success' were used by several exhibitors. The latter group covered presswork, metal fabrications, drilling heads, etc., and again, in general, had a very good fair.

Other joint-venture groups were sponsored by the British Compressed Air Society ('members generally very content'), the Electronic Components Centre, whose members had mixed views, the Association of Hydraulic Equipment Manufacturers ('business slow at first, but picked up towards the end') and the British Electrical and Allied Manufacturers Association whose members were generally pleased.

In general, therefore, the joint ventures were content although detailed consideration is still going on.

The independent exhibitors outside the joint ventures produced a slightly more mixed story. The consumer goods exhibitors in Messehaus 3 were not in general happy. The fair has perhaps lost something to more specialised events. The alert fair organisers are well aware of the problem, however, and are no doubt considering what can be done.

Some of the independents handling industrial components and the like, however, used such phrases as 'exhausted but delighted' and 'never expected so much business'.

New trends in the fair have become noticeable recently, and 1977 has set some guidelines for the foreseeable future.

The fair is becoming increasingly suited to the exchange of information and technical data, and advances in technology, as against actual selling. Many firms meet their representatives and customers from all over the world and increasingly look upon the fair as an international shop window. This point should not be missed by British industrialists, especially in the fields of advanced science and technology. Nor should the excellent multilingual arrangements of the organisers, for example, in the dissemination of publicity material and information on trade opportunities.

Hanover is one of the major, if not the major, such event in the world. Any appropriate firm exporting from Britain should consider it seriously.

Favourable furniture impression

From D. H. Payne, British consulate-general, Atlanta

Sixteen British furniture manufacturers exhibited at Southern Furniture Market, held at High Point, North Carolina, from 14 to 22 April. The joint venture was sponsored by the British Furniture Manufacturers Export Club and British Overseas Trade Board. This was the fourth consecutive showing at the market by representatives of BFMEC.

Following on the theme 'Britain sends her best' was 'The British are back at the southern market' and loudly proclaimed by the presence of Alfie Howard, the official town crier of the London borough of Lambeth

There is no doubt that the continuous presence of UK manufacturers at the Southern Furniture Market has made a favourable impression on the United States home furnishings scene. High Point is undisputably the most sophisticated and largest concentration of permanent home furnishings showrooms in the world. The establishment of the only permanent display that British manufacturers maintain anywhere in the world and the signing of the lease up till April 1978 underscores the importance of the United States market to UK exports. Buyers were high in their praise of reproductions in fine woods and were surprised to discover that Britain also excels in the design and construction of fine contemporary furniture.

This exhibit, which offered a complete range of furniture stylings from Britain, well supported with accessories to add the final delicate touch, also celebrated silver jubilee year with a large official anniversary portrait of the Queen and a Wedgwood commemorative collection.

Buyers from every state and 30 foreign countries registered during the nine days of the market and the final count exceeded 15,500, a 6 per cent increase over the previous market. The total during the market exceeded 181,000.

Actual business at the British exhibit from

12 reporting firms amounted to about $500,000 with eight firms predicting final orders to reach $1.1 million. The value of furniture exported to the United States in 1976 amounted to some $40 million and the total for 1977 should reach $55 million.

Spokesmen for BFMEC predict that through High Point the value of UK exports should increase.

Carpet sales to Japan expected to increase again

From British embassy, Tokyo

Sponsored by the British Carpet Manufacturers' Association (BCMA), 16 British companies took part in a carpet sample show at the British Export Marketing Centre from 20 to 23 April. For many this was their third exhibition at the BEMC. Most were supported by their agents and despite some disruption through strike action by Japanese transport workers, attendance was up on the previous event held in March 1976. This year's carpet exhibition was highlighted by the presence of Edmund Dell, Secretary of State for Trade, who attended the opening reception.

With the exception of three companies who were unrepresented, most of the exhibitors were consolidating their position in Japan with a view to long-term business. Local agents provided full co-operation and throughout the event it was clear that they and their British principals were working solidly in harness. Indeed local agents have come to welcome the yearly presence of the British carpet industry in Japan: it allows them the opportunity to show off their principals to their customers, thus improving their own status and of course the exhibition is a focal point to meet present customers and develop new contacts.

A conservative estimate of business for 10 of the exhibitors over the next 12 months was put at £1.2 million, and both the exhibitors and the organisers are confident that total sales will in 1977 exceed the previous year's total.

While it is likely that the three unrepresented companies may arrive at satisfactory agency arrangements in the second week of their visit, the British industry is fully aware that Japan is a tough market to penetrate by newcomers and that there is no room for complacency. Consequently the BCMA will keep the pressure up, and will be mounting another promotion at the BEMC in March 1977.

British carpets are becoming a success story in Japan through hard and sustained effort put in by British exporters since 1973. British carpet exports to Japan, which in 1972 amounted to £170,000, exceeded £1.8 million in 1976, surpassing the previous year's total by 100 per cent. This achievement is made the more creditable when viewed against the total market for imported carpets which has been down, following the oil crisis in 1973.

Mr C. A. B. MacLean, managing director of Stoddard International, with Edmund Dell, Secretary of State for Trade, at the carpet exhibition.

Unglamorous, but effective

From H. D. Newcomb, British consulate-general, Chicago

The American Ceramic Society exhibition is not a glamorous trade show. It is, however, a very effective one in terms of meeting the right people in the United States ceramic market. Ceramic manufacturers from all over the United States gathered in Chicago on 23 to 29 April to hear more than 560 technical papers and to see what is new in ceramic equipment.

For the past six years the British Ceramic Plant and Machinery Manufacturers Association, in co-operation with the British Overseas Trade Board, has sponsored a joint venture at this event. This year nine British companies attended, the largest contingent there.

Newcomers to the American ceramic exhibition included Ceramic Workshop Ltd, F. C. Simking Ltd, Thermic Systems (Staff) Ltd and James Birks and Co. While these UK firms were busy learning about the market, old timers to the show, such as W. C. Cannon, Air Engineering Ltd, Diamond Refractories Ltd, Edward and Jones Ltd, were busy renewing old acquaintances.

It was reported that several firms received serious inquiries and some were actually negotiating the sale of their equipment off the stand. The members of the joint venture unanimously considered the exhibition a worthwhile event.

The 1978 American Ceramic exhibition will be held in Detroit.

UK tv films in Cannes

From J. J. Patanchon, British consulate-general, Marseilles

Held at the Palais des Festivals, Cannes, from 22 to 27 April the 13th international television programme market (MIP-TV) attracted 668 companies and some 2,000 trade delegates representing 92 countries.

In terms of stand space, the UK was the leading foreign participant, followed by the United States and West Germany. Eighty-seven British companies exhibited; 30 were sponsored by the British Overseas Trade Board in collaboration with the Film Producers Association of Great Britain.

Mr M. Alan-Smith, consul (commercial) in Marseilles (third from right), with Mr R. Weighill, head of programme sales at ITC Entertainments, on the ITC stand at MIP-TV, Cannes.

The British participants were again successful this year. Among the exhibitors who did well were: Motion Picture Marketing, which sold its musical specials and series produced and directed by Mike Manfield to Spain, Finland, Sweden, Holland, Iran, Canada, Yugoslavia and Mexico; ITC Entertainment which concluded its best MIP-TV so far – the 'Muppetts Show' is another universal success for them; EMI Film Distributors was so pleased with its achievements that the company will return next year with a bigger stand; Open University Educational Enterprises, exhibiting for the first time in Cannes, has developed useful contacts with worldwide tv networks; Thames Television has sold drama/children series and light entertainment programmes to Australia, West Germany, France, Yugoslavia, Italy, Arab States, Nigeria, Zambia, and estimates that firm business generated from Cannes will amount to £250,000; the British Broadcasting Corporation, which has had a successful 1976/77 trading year with a gross turnover of £8.5 million, consolidated its position in worldwide markets and regards MIP-TV as a very valuable complement to the BBC annual show case held in Brighton.

The international television programme market is well established and its commercial value is second to none. British participants are unanimous in considering that it is an excellent platform from which to launch their material worldwide.

The next MIP-TV will be held in Cannes from 20 to 26 April 1978.

Overseas trade export services

Unispeed extends European bulk liquid service . . .

Unispeed Intermodal, part of the SPD group, has extended its overseas bulk liquid service to cover the whole of the EEC, the remaining Scandinavian countries and Spain.

Already operating in Belgium, France, Germany, Holland and the Republic of Ireland, Unispeed Intermodal will offer a service from the UK to destinations throughout Europe, working directly with selected partners on the continent.

Formed in 1974, to incorporate the already-established Unispeed Freightliner Agency, Unispeed Intermodal specialises in the unit load movement of bulk products in purpose-built ISO tanks and containers. Any combination of road, rail and sea transport is used to achieve a door-to-door service. It operates 160 specialised units and has a planned growth programme to double the present business within the next two to three years.

Unispeed Intermodal has adopted a number of innovations, including 5,200 gallon capacity tanks. When used with purpose-built lightweight trailer units, these produce an increase in payload from 19.5 tons to 21 tons.

Liquid tanks are constructed of 316 grade stainless steel, insulated with 5cm polyurethane and have steam coil-heating facilities. This construction enables them to carry a vast range of different liquids, including chemicals; latex; wines and spirits; vegetable, fish acid and lubricating oils; minerals and fruit juices.

Further information: circle 346

. . . and opens up Europe for Scottish food producers

Unispeed Intermodal has also extended to Europe its direct distribution service for chilled and frozen food from Scotland.

Services to Germany, France, Belgium, Holland, Italy, Spain, Luxembourg, Switzerland and Austria are offered, working directly with partners on the continent.

Originally established in June 1976 for the distribution of fresh meat from Scotland to London and throughout the home counties, the service will be expanded to cover fish, including shellfish; other specialist foods ranging from game to pizzas; dairy products; ice cream and other foods requiring both temperature-controlled transport and small drop distribution.

The service, which, the company says, eliminates warehousing and double handling, could, for example, enable trout taken from farms on the west coast of Scotland to be offered to diners in continental restaurants within 24 to 36 hours of their being caught.

International loads are taken by Freightliner to Harwich then on by ferry to Zebrugge, Rotterdam or Bremerhaven, where they are collected by Unispeed Intermodal's overseas partners.

Unispeed Intermodal will collect compatible products throughout Scotland and consolidate loads into 20 ft and 40 ft containers. Once filled, they are sealed to ensure no temperature rise and consequent deterioration in quality of products and to guarantee against pilferage.

Further information: circle 347

Pandair appoints Zambian agent

International air-freight forwarder Pandair has appointed Leopold Walford (Zambia) Ltd as Pandair's exclusive break bulk and handling agent throughout Zambia.

Leopold Walford (Zambia) maintains a six-day's a week operation giving a pre-weekend clearance and onward delivery service for consignments on Pandair's services which arrive in Zambia on Saturdays.

Leopold Walford is reputed to be the largest air-freight forwarder in Zambia, with full operational facilities at Ndola, Lusaka, Kitwe, Kabwe and Luanshya. It is part of the Manica Trading Group and as such has access to an extensive distribution service network and all its ancilliary facilities.

Pandair operates three consolidation flights a week direct to Lusaka and one direct service weekly to Ndola and Kitwe. Traffic for destinations other than to these points is on-carried in bonded vehicles on through master waybills, thus eliminating the need for additional documentation, the risk of potential losses and transhipment delays.

Further information: circle 348

Freepost reader service

For further information on items in this section, circle the corresponding number on the reader services page near the end of the magazine.

News of services for exporters

If your company has recently introduced a new service for exporters – in, for example, the packing, forwarding, shipping, airfreighting, banking or translation fields – we would be glad to have details, plus a good black and white photograph where appropriate.

Items for inclusion in our fortnightly 'Export Services' feature should be addressed to the Overseas Editor, 'Trade and Industry', Room 439, 1 Victoria Street, London SW1.

Advertisers who wish to be associated with this feature should contact Mike White at T. G. Scott's on 01-242 6264.

BA's executive cabin goes worldwide

British Airways has introduced an executive cabin on its scheduled 747 flights to almost 40 destinations around the world.

Normal economy fare passengers will be offered an executive cabin in the forward zone of the economy-class area immediately behind first class on 747 flights operating from London, Manchester and Prestwick. Because the company operates a leased 747 on the London to Chicago route, the executive cabin facility cannot be offered.

Passengers in the executive cabin will be curtained off from the remainder of the economy cabin. They will receive a choice of smoking or non-smoking seats; a more personal service; fast meal and bar service; first choice of duty-free items; selected additional magazines and newspapers; two business-orientated channels on the in-flight entertainment audio system; and fast disembarkation after first-class passengers.

As the majority of executive cabin passengers will be business travellers who normally work in flight, no in-flight movie will be shown in the cabin and infants will be excluded.

The facility will be available on routes between Great Britain and Europe, Middle East, India, Far East, Australia, Canada, USA, Caribbean, East Africa, South Africa and the Indian Ocean Islands.

Because of limited space, requests for seating in the executive cabin should be made at the time of reservation and again at check-in, where seats will be assigned on a first-come, first-served basis.

Further information: circle 349

New cargo terminal at Gatwick Airport

On 2 May the first shed of the new £6 million cargo terminal at London's Gatwick Airport opened. Operated by Gatwick Handling Ltd

the cargo terminal will eventually cover 10,500m².

The new, fully bonded terminal replaces an old shed first opened in 1958 and now totally overloaded. Its design capacity was 50,000 tonnes and in 1976 it handled 83,300 tonnes. The new terminal, known as Cargo Terminal One, is estimated to have a capacity of 200,000 tonnes. Land is available to take expansion up to an estimated 500,000 tonnes, or the same as Heathrow's current throughput.

Lorries will arrive at the terminal via a purpose-built road connecting the terminal to the M23 airport spur and unload on to the raised platforms of the new sheds. Loads are then palletised and taken out to the aircraft. Work has started on the aircraft apron and taxiway that will bring the largest cargo aircraft right up to the sheds. Four aircraft stands will be provided initially, all capable of handling the large all-cargo aircraft with a further expansion following when necessary.

The new cargo terminal is part of the £100 million development programme at London's Gatwick Airport.

Further information: circle 350

New igloo packing system

Kingsley Aviation Services, in association with Blue Line Packers of Colnbrook, is now offering a new and exclusive packing system particularly suited to the needs of interior designers and contract furnishers. It is designed for the four aircraft used by Kingsley – Boeing 747, Douglas DC10, DC8/707 and the rear-loading CL44.

Customers' goods are collected and packed into specially-designed igloos which are individually constructed to the requirements of each load – and for each aircraft.

The company claims the new packing system offers clear-cut benefits which include the igloo remaining completely sealed from export warehouse to final destination thus virtually eliminating damage in transit; by sealing at source pilferage is prevented; the system easy to cost as an all-inclusive system, and, because it is sealed, there is the advantage of lower insurance.

Further information: circle 351

Grindlay Brandts finance simulator exports

A British bank who sees itself as a specialist at putting together international finance packages for simulators is Grindlay Brandts.

The bank has just signed a loan agreement to assist the financing of its twelfth simulator in 30 months. Nine of the simulators have been exported and at around £1.5 million per simulator this represents a substantial export earning.

The latest export is a product of Redifon Flight Simulation of Crawley who are providing a Fokker 27 simulator for New Zealand National Airlines Corporation.

Under the scheme arranged by Grindlay Brandts, one of New Zealand's leading financial institutions, the Marac Corporation, will be the actual purchaser and it in turn will lease the simulator to the National Airlines Corporation.

Grindlay Brandts provided a loan to Marac to assist the company in making the initial purchase from Redifon, which will include spare parts and equipment.

In addition, Grindlay Brandts has arranged financial packages for Redifon simulators with Cathay Pacific, Japan Airlines, Singapore Airlines, Varig, Pacific Western Airlines and British Airways.

Further information: circle 352

Bulk-handling system sales increase

Pertwee Industrial reports that over 1,000 companies in 23 different countries have now purchased its mini-Bulk containers in quantities ranging from 10 to 26,000.

Overseas sales accounted for 31 per cent of mini-Bulk production. Eight overseas agents have been appointed including the Chase Bag Co of Greenwich, Conn., one of the three largest industrial packaging companies in the United States.

Applications of mini-Bulk containers have included shipment of lump clays, ores, cement and minerals such as magnesium oxide and salt; handling of feedstocks for the plastics processing industry; and bulk delivery of seed, fertiliser materials and animal foodstuffs in the agricultural industry.

Further information: circle 353

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ENCIRCLE TI 493 ON PAGE 315 FOR FURTHER INFORMATION

Overseas trade country data

Australia

Dumping: glass-fibre rovings and chopped strand mat. Imports of glass-fibre rovings and chopped strand mat into Australia are presently gazetted as subject to dumping duty. A request has been received from Australian industry to revise the normal values presently applicable to imports from the UK, United States, Italy and Japan.

The Australian customs representative in London will be asked to carry out the necessary inquiries to establish revised values for exports from the UK.

Inquiries: CRE 01-215 5319 Ref: CRE 1088/73

Temporary protection for scales. A notice in *Trade and Industry*, 29 April reported a request for temporary protection against the import of bathroom scales (tariff item 84.20.100).

It has now been announced that this request for temporary protection also extends to kitchen scales.

The latest date for receipt of views has been extended to 27 May.

Inquiries: CRE 01-215 5319 CRE 680/77

Tariff changes: olives. The Australian government has accepted the recommendations of the Industries Assistance Commission on the question of assistance to the Australian olive industry made in the commission's report of 3 December 1976.

As from 15 April 1977, green olives in packs of 4.6 litres or less are dutiable at 15 per cent. Green olives in packs exceeding 4.6 litres are dutiable at the Gatt-bound rate of $A0.033 per litre pending renegotiation. Black olives and stuffed olives are admitted free of duty under by-law.

In all these items of the tariff (headings 07-01, 07-02, 07-03, 20-01 and 20-02) there is no difference between the general and UK preference rates of duty.

Inquiries: OTAR 01-248 5757 ext. 468/401/469.

Botswana

Revaluation of pula. The pula was revalued by 5 per cent on 30 April and is now pegged to the United States dollar at $1 = Pl.21 as against the previous level of $1 = Pl.15.

In announcing the revaluation the vice-president of Botswana stressed that the measure was designated to redistribute the burden of inflation, which he said had been imported from the rand monetary area, from the poorer to the more affluent sectors of the community, pointing out that this was in keeping with the government's development policy to improve the living standard of the poorest.

Inquiries: CRE 01-215 5274.

Brazil

Duty set for polypropylene condenser film. Customs Policy Council resolution 2945, published in the *Diario Oficial*, 12 April, set the import duty on 'polypropylene film, of a nominal thickness up to 0.26mm, suitable for electric condensers' at 55 per cent for a period of one year. The increase will lapse on 12 April 1978.

Inquiries: OTAR 01-248 5757 ext. 476/474.

Duty reductions. By Customs Policy Council resolution the following duty reductions in import duties have been announced.

On a quota of 56,550 tonnes of chloroethylene, under tariff heading 29.02.12.00, reduced from its prior rate of 30 per cent to 10 per cent. The concession is temporary and lapses on 31 December.

On a quota of 10,200 tonnes of ortho-xylene, of tariff heading 29.01.48.02, reduced from its prior rate of 30 per cent to 10 per cent. This concession is temporary and lapses on 30 June.

Inquiries: OTAR 01-248 5757 ext. 476/474.

Duty rates fixed on enzymes. Customs Policy Council resolution 2948, published in the *Diario Oficial*, 12 April, fixed the duty rates on the following enzymes:

Tariff no.	Goods	Duty rate
29.40.07.00	Pancreatin	45%
29.40.09.00	Pepsin	45%
29.40.14.00	Bromelin	40%

Inquiries: OTAR 01-248 5757 ext. 474/476.

Duty increase on DDVP and its preparations. Customs Policy Council resolution 2947, published in the *Diario Oficial*, 12 April, increased the import duty on 0,0 dimethyl-2,2-dichlorovinyl phosphate (DDVP) and preparations based on it as follows:

Tariff no.	Goods	Duty rate
29.19.99.00 'ex'	0,0 dimethyl-2,2-dichlorovinyl phosphate	30%
38.11.02.00 'ex'	Preparations based on DDVP	45%

Inquiries: OTAR 01-248 5757 ext. 476/474.

Canada

Regulations on safe food. The Health Protection Branch of the Canadian Department of Health and Welfare issued information letter 495 which published proposals for regulations which would require food manufacturers or distributors in Canada to

1 recall food products found to be unsafe.
2 maintain processing techniques and quality controls to ensure production of safe goods.

Comments should be sent by 15 June to the Adviser, Legislative Policy, Food Directorate, Health Protection Branch, Department of National Health and Welfare, Ottawa, Ontario K1A 0LZ.

Inquiries: OTAR 01-248 5757 ext. 455/456/457.

Finland

Marking of foodstuffs containers. The Finnish Foodstuffs Board has issued decree 280/77, 22 March, introducing new regulations on the marking of foodstuffs wrappers and containers. An unofficial translation of this decree is available from OTAR 01-248 5757 ext. 458/461.

France

Parafiscal tax on watches and clocks. A decree published in the *Official Journal* of 1 April instituted a parafiscal tax on the products of the clock and watch making industry to last until 31 December 1979.

The rate of the tax has been fixed at 0.95 per cent for the period up to 31 December 1977 and is levied on the same basis as the value added tax on both home produced and imported items.

Inquiries: OTAR 01-248 5757 ext. 423.

Further information

In many cases further information on the notices published on these pages is available to British exporters from the Department of Trade. The main branches concerned are: Commercial Relations and Exports (CRE) Division, 1 Victoria Street, London SW1H 0ET (tel: direct dialling); and Overseas Tariffs and Regulations Section (OTAR), Export Data Branch, Export Services and Promotions Division, Export House, 50 Ludgate Hill, London EC4M 7HU (tel: 01-248 5757). In each case, the relevant information source is indicated at the end of the notice by its initials (OTAR or CRE) and, in the case of OTAR, the telephone extension.

Gibraltar

Import duty. The following increases in import duty were notified in LS 14 of 1977 in *Gibraltar Gazette* 1682, 31 March:

Item	Commodity	Duty Old	Duty New
1	Malt liquor, per gallon	43.33p	50p
3	Whisky, in bottles	332p	452p
	Whisky, in casks	325p	445p
4	Brandy, in bottles	330p	450p
	Brandy, in casks	320p	440p
5	Gin, rum and other spirituous liquors other than liqueurs		
	a in bottles	368p	488p
	b in casks	361p	480p
6	Liquors and cordials, irrespective of strength		
	a in bottles, per gallon	368p	550p
	b in casks, per gallon	368p	540p
6A	Any liquor otherwise dutiable under items 1, 3, 4, 5 or 6 but which is less than 0.5° proof, per gallon	39.33p	50p
8	Manufactured tobacco not otherwise enumerated including chopped, pressed or packed, shredded, long cut and rolled plug, snuff, siftings and cigars, per lb	260.39p	275p
9	Manufactured cigarettes, per lb (with an additional duty of 580 per thousand cigarettes)	100p	160p
11	Still wines		
	a in bottles, per gallon	52.5p	85p
	b in casks, per gallon	26.67p	35p

Inquiries: OTAR 01-248 5757 ext. 471/462/472/473.

Greece

Duty on cars. A new basis for assessing import duty on cars came into effect on 16 March. Import duty which was formerly calculated on cif value plus 10 per cent is now based on list price on the car's domestic market less internal taxation in that country plus freight, insurance and an additional 10 per cent.

Inquiries: OTAR 01-248 5757 ext. 439.

Indonesia

Batteries and tyres for use in aircraft. The Indonesian Minister of Finance has decreed that, with effect from 21 February, electric batteries and tyres for use in aircraft (tariff headings 85-04.10 and 40-11.80) shall be totally exempted from import duty and import sales tax. This decree will be reviewed if and when such articles are manufactured in Indonesia.

Inquiries: OTAR 01-248 5757 ext. 469/401/468.

Republic of Ireland

Cinema films. The Restrictive Practices Commission intends to hold a public inquiry into the supply and distribution of cinema films in the Republic of Ireland. Interested parties can obtain a copy of a report produced by the Examiner of Restrictive Practices from the address below. Any persons or organisations wishing to make submissions on this subject should do so in writing to the Secretary, Restrictive Practices Commission, 50 Upper Mount Street, Dublin 2, Republic of Ireland, before 27 May.

The date and place of the public sittings has not yet been released.

Inquiries: CRE 01-215 3066.

Israel

Standard for thermostat for electric water heaters. The following Israeli standard has been declared official and compliance with it will be compulsory 60 days from 7 April:

IS No. 808 – Thermostat for electric water heaters

The Standards Institution of Israel issues an English translation of the standard and copies may be obtained from the British Standards Institution Library, 2 Park Street, London W1 (tel. 01-629 9000, telex 266933).

British exporters requiring technical advice are advised to contact Technical Help to Exporters, British Standards Institution, Maylands Avenue, Hemel Hemstead, Herts HP2 4SQ (tel. 0442 3111, telex 82424).

Inquiries: OTAR 01-248 5757 ext. 458/461.

Import duty amendments. Amendments have been issued to the Israeli customs tariff affecting the following CCCN numbers:

32.09, 39.01, 39.02, 40.14, 48.01, 59.08, 82.04, 84.03, 84.54, 87.02, 90.09

Inquiries: OTAR 01-248 5757 ext. 458/461.

Italy

Food colourants. The Italian *Official Gazette* of 5 April published ministerial decree of 21 March, which prohibits the use of the colouring-matter E123 amaranth in food, except in caviar and caviar substitutes. This decree will come into effect as from 30 May 1977. Copies of the decree, in Italian are available.

Inquiries: OTAR 01-248 5757 ext. 466/467/288.

Jamaica

Two-tier exchange rate. On 22 April 1977, the Jamaican Prime Minister announced the introduction of a two-tier foreign exchange rate for transactions in Jamaican dollars (J$).

The basic rate of J$0.9091 to US$1.00 applies to imported goods as follows:

1 all purchases by the government; 2 the purchase of all basic foods; 3 the purchase of essential medical and pharmaceutical products; 4 imports of basic raw materials by Jamaican Nutrition Holdings; 5 animal feeds; 6 fertilisers; 7 all petroleum imports; 8 all purchases by the bauxite and alumina sector.

All other import transactions not falling into the categories to which the basic rate applies will be subject to a special rate of exchange, set at J$1.25 to US$1.00.

Foreign exchange will be purchasable at the basic rate for payments in respect of goods which have been cleared from wharves and sold at prices based on the former rate of exchange.

Where import licences have been issued and orders placed, the importer or his commercial bank is required to submit the relevant documents, prior to customs clearance of the goods, to the Bank of Jamaica, who will insert the relevant exchange rate.

In future, the Trade Administrator will specify on import licences the rate which is to apply to a particular transaction. Where no rate is indicated, the special rate will apply. The relevant rate will apply for calculation of the import duty payable and will be applied by the Prices Commission in determining price control orders.

Inquiries: OTAR 01-248 5757 ext. 7312.

Jordan

Import duties. The Jordanian authorities have announced in *Official Gazette* 2690, 14 March, amendments to items in the customs tariff listed below. The new rates of duty came into effect on 15 March 1977.

15.14, 27.13(a)(b), 28.21(a)(b), 28.38(b)(c), 29.04(b)(c), 29.07, 29.40(b), 32.02, 32.09(a)(b)(c)(d), 35.01(a)(b), 39.02(d)(1)(2), 44.03(a)(b)(c), 44.05(a)(b), 48.07(e)(1)(2), 48.16(c)(d), 55.05(a)(b), 55.09(a)(b), 76.02(a)(b), 84.06(a)(b), 84.08(a)(b), 84.10(a)(b)(1)(2), 84.29, 84.45, 84.46, 84.47, 84.50, 84.56, 85.11, 90.22, 90.24(a)(b)(c), 90.25(a)(b), 97.04(a)(b)

Inquiries: OTAR 01-248 5757 ext. 420/7062.

CRE Commercial Relations and Exports Divisions
Tel. Direct dialling (see end of each notice)

OTAR Overseas Tariffs and Regulations Section
Tel. 01-248 5757 (extension at end of each notice)

Portugal

Tariff amendment. Portuguese *Diario da Republica* 81, 6 May, published decree-law 136/77 amending the tariff subdivisions and import duty rates of CCCN heading 98.02, slide fasteners and parts thereof.

Inquiries: OTAR 01-248 5757 ext. 458/461.

Senegal

Customs duties. A law re-introducing customs duties on products from the EEC has been adopted by the Senegalese national assembly.

There are now two uniform rates of customs duty:

For all products originating in the EEC, 5 per cent.

For all goods originating in third countries, without prejudice to special tariff agreements between Senegal and these countries, 10 per cent.

Inquiries: OTAR 01-248 5757 ext. 472/471/473/462.

Singapore

The Customs (Prohibition of Imports) Notification 1977. The Singapore government has introduced the Customs (Prohibition of Imports) Notification 1977 which came into force on 15 April and reads as follows:

1 The importation into Singapore, except for transhipment, of the following dutiable goods is hereby prohibited:

a brandy or whisky which is not accompanied by a certificate issued by the proper customs or other authority of the country of origin acceptable to a senior officer of customs to the effect that the brandy or whisky has been stored in wood for a period of not less than three years;

b the intoxicating liquors specified in the first column of the schedule to this notification containing arsenic, copper or lead, either as such or in the form of a compound, in excess of the amounts specified, in parts per million, in the second, third and fourth columns respectively of the said schedule;

c intoxicating liquors, the bottles or labels of which have been marked 'Singapore Duty Not Paid' on the direction of the Comptroller;

d cigarettes marked 'Singapore Duty Not Paid' on the direction of the Comptroller;

e locally-made cigarettes with the prefix letter 'E' before the code numbers or letters or any other designation embossed or printed on the packet on the direction of the Comptroller; and

f shag tobacco.

2 The Customs (Prohibition of Imports) Notification, 1974, is hereby cancelled.

THE SCHEDULE

	Arsenic (As)	Copper (Cu)	Lead (Pb)
1 Beer, cider, perry, stout	0.2	7	0.5
2 Brandy, gin, rum, whisky and other intoxicating liquors exceeding 70 per cent proof spirit	0.2	5	0.5
3 Intoxicating liquors not otherwise specified	0.2	5	1
4 Wines, liqueurs	0.2	7	1

Inquiries: OTAR 01-248 5757 ext. 401/468/469.

Amendments to the Singapore Trade Classification and Customs Duties 1975. The Singapore government has issued I and E notice 3/77, 11 April, where the descriptions of the commodities in the Singapore Trade Classification and Customs Duties 1975 are amended to read as follows:

Page	CCCN no. (formerly BTN)	Description	Unit of quantity
83	39.07.311	Toilet cisterns, not equipped with their mechanisms	Number
147	73.38.210	Toilet cisterns, not equipped with their mechanisms	Number
186	87.10.300	Other	Number

Inquiries: OTAR 01-248 5757 ext. 401/468/469.

Dubai's trade centre goes up

Dubai's international trade and exhibition centre is now over half way to completion. The £100 million plus development being built by Bernard Sunley and Sons on an 89ha site includes a 39-storey tower block; 348 bedroom, six-storey hotel with swimming pool; exhibition hall; and 504 apartments. When completed, the tower block will be approximately 500 ft high, with an additional 100 ft high radio tower at the top, making it the tallest building in the Middle East.

South Africa

Customs tariff changes. The following duty amendments were published in the South African *Government Gazette* of 7 March.

CCCN no.	Description	Rate of duty General	MFN	Preferential
22.05.50.10	Champagne	6,373c per 100 litres	—	—
22.07.90	Other	4,481c per 100 litres	—	—
24.02.70	Pipe tobacco	180c per kg net	—	—

Inquiries: OTAR 01-248 5757 ext. 471/472/473/462.

United States

Use of saccharin in food, drugs and cosmetics. The *Federal Register*, 15 April, published rules proposed by the Food and Drug Administration to prohibit the use of saccharin, 1 in food as an ingredient, 2 in cosmetics that are likely to be ingested, 3 in animal drugs and animal feed, 4 as a single ingredient OTC drug unless the product bears a warning about the risk of cancer.

Comments (five copies) should be sent by 14 June 1977 to Food and Drug Administration, Room 4-65, 5600 Fishers Lane, Rockville, Maryland 20857.

Inquiries: OTAR 01-248 5757 ext. 456/457/7312.

Toxic substances control act. On 12 April the Environmental Protection Agency published in the *Federal Register* supplementary information relating to the inventory reporting regulations required under section 8(b) of the act. Section 1 of the notice explains the meaning of the various entries contained in the candidate list, and gives details of reporting instructions for chemcials to be included in the inventory. Section 2 gives the criteria to be used for selecting minerals to be included in appendix A of the candidate list, and lists those minerals it is proposed should be included.

Inquiries: CRE 01-215 5397.

Imports of speciality steels under quota. Further to the notice which appeared in *Trade and Industry* on 29 April 1977, the following table, derived from statistics made available by the US Customs Service, shows the products which are subject to quotas, the US quotas on imports from the EEC for the 12 months 14 June 1976 to 13 June 1977, and US imports of the products concerned from the EEC during this period, as at 29 April 1977:

Pounds weight

Product	US import quotas for 12 months 14 June 1976 to 13 June 1977	US imports during this period as at 29 April 1977
Sheet and strips of stainless steel (item 923.20)	34,082,000	30,186,290
Plates of stainless steel (item 923.21)	9,600,000	5,946,311
Bars of stainless steel (item 923.22)	4,200,000	2,123,334
Wire rods of stainless steel (item 923.23)	14,800,000	Quota filled
Bearing steel (item 923.25)	7,000,000	3,006,805
Alloy tool steel (item 923.26)	6,800,000	Quota filled

Inquiries: CRE 01-215 5629.

Change in classification of textile tariff. The United States Internation Trade Commission has issued modified draft rules for determining chief weight in connection with its investigation into the domestic effects of a change in textile classification from the present chief-value method to a chief-weight method.

Inquiries: CRE 01-215 5629.

Venezuela

Temporary duty exemption. Decree 2.118 of 12 April 1977 announced the suspension of all customs tariffs on pre-fabricated houses, both complete or in CKD form of whatever material they might be manufactured, as long as they are consigned to Venezuelan autonomous institutes, official entities, companies of the Venezuelan government or any private entity who might have contracted development plans with the afore-mentioned official government departments. This suspension will be valid until 31 December 1977.

The suspension of tariffs for pre-fabricated houses does not include furniture, household goods, fixtures or in general any product that does not form part of the basic structure and is not a basic element to the construction of the house.

Inquiries: OTAR 01-248 5757 ext. 474/476.

Temporary duty exemptions. Decree 2126, 18 April, removes until 23 July import restrictions and duty on goods falling within the following tariff numbers.

02.01	Pork and bacon	16.02	Meat preparations
03.01	Fresh fish excluding cod and salmon	ex 16.04	Tinned sardines
04.02	Condensed and powdered milk	19.02	Baby foods
04.03	Fresh or salted butter	20.02	
04.04	Cheese and processed cheese (not Parmesan, Gruyere or cottage)	20.05	
ex 07.01	Potatoes for consumption and garlic	20.06	
ex 07.05	Black beans	20.07	
ex 08.01	Bananas	21.07	Milk preparations for babies
		22.10	Vinegar and substitutes
		25.01	Table salt
		70.10	Glass containers
		73.23	Tin containers

Inquiries: OTAR 01-248 5757 ext. 474/476.

Yugoslavia

Import duty exemptions or reductions. Yugoslav *Official Gazette* 14, 11 March, item 167, provides for exemption from duty on imports of specific equipment for health centres. Items 168 and 171 of the same *Gazette* provide for reduction of duty on imports of specific items of transport equipment and items for use in production of artificial chemical fertilisers.

Inquiries: OTAR 01-248 5757 ext. 288/466/467.

Industrial publicity

Publicity for British exporters can often be obtained through use of the facilities of the Central Office of Information, who are concerned with collecting from industry items suitable for dissemination overseas by way of government information services. The COI are interested in news items, feature article material, photographs, tape recordings for radio, and films for television and other screening. Contact should be made with the nearest regional office covering your area.

Northern: Mr H. G. Roberts, Andrews House, Gallowgate, Newcastle upon Tyne NE1 4TB (Tel: 27575 – Telex 53277 NTYNE).

Yorkshire & Humberside: Mr T. Cooban, City House, New Station Street, Leeds LS1 4JG (Tel: 38232 – Telex 55472 COI DOE – G).

East Midland: Mr A. Waller, Severns House, 20 Middle Pavement, Nottingham NG1 7DW (Tel: 0602 56181 – Telex 37572 COINOT – G)

Eastern: Mr A. A. McLoughlin, 72-80 Hills Road, Cambridge CB2 1LL (Tel: 58911 – Telex 81187 COICAM – G).

London & South Eastern*: Mr A. J. Goodson, St Christopher House Annexe, Sumner Street, London, SE1 (Tel: 01-928 2371 – Telex 918881 COI FORLANG LDN, message to be prefixed for London Region).

Southern: Mr A. S. Poole, Market Place House, Reading RG1 2EH (Tel: 580463 – Telex 848216 CENTROFORM RDG).

South Western: Mr P. D. Yorke, The Pithay, Bristol BS1 2NF (Tel: 291071 – Telex 44203 COIBSL – G).

West Midland: Mr D. C. Boyd, Five Ways House, Islington Row, Middle Way, Birmingham B15 1SH (Tel: 021-643 8191 – Telex 337576 COIBHAM).

North Western: Mr P. B. Porter, 22nd floor, Sunley Building, Piccadilly Plaza, Manchester M1 4BD (Tel: 061-832 9111 – Telex 667830 CENTROFORM MCHR).

Scottish Office: Mr C. MacGregor, MBE, Scottish Information Office, New St. Andrew's House, St James Centre, Edinburgh EH1 3TD (Tel: 031-556 8400).

Ulster Office: Northern Ireland Information Service, Stormont Castle, Belfast BT4 3ST (Tel: 63011).

Welsh Office: Mr Brian Evans, Director, Welsh Office Information Division, Oxford House, Hills Street, Cardiff CF1 2XG (Tel: 44171 – Telex 49327).

* National companies in central London, and particularly those with UK subsidiaries or branches, which require overseas publicity should consult Industrial Section at COI Headquarters: Mr E. Turnbull, Central Office of Information, Hercules Road, London SE1 7DU (Tel: 01-928 2345 ext. 271 – Telex 915444).

European community news

Employment prospects discussed in Brussels

After taking note of the declaration of the European council in Rome on 25 to 26 March on economic growth, inflation and employment, the Standing Committee on Employment discussed employment prospects in the community up to 1980 at its 11th meeting in Brussels on 5 May.

Discussion was based on guidelines drawn up by the commission summarising the independent experts' report on this subject. This contained a number of important points, such as the investment/employment ratios, the functioning of the labour market and possible measures for improving the situation.

The committee's discussions on this subject enabled the representatives of member states and both sides of industry to express their concern particularly with regard to work sharing and employment premiums in the light of the current serious situation in the labour market.

On the basis of a document summarising the main aspects of the commission's communication to the council, the committee held a useful exchange of views on the subject of the review of the European social fund.

The committee's discussion enabled the representatives of member states and both sides of industry to express their views both on the commission's analysis of the present structure of the fund and on the proposals themselves.

Some speakers shared the commission's view that it would be necessary to take steps to broaden the basis of the funds activities in particular to include additional measures to combat unemployment.

Congratulating the commission on having submitted its proposals in good time for discussions in the Standing Committee on Employment and in the council within the time-limit laid down in the basic decision of 1971, the chairman, Albert Booth, Secretary of State for Employment, expressed the wish that in spite of the complexity of the subject the social affairs council would be able to reach a decision on the comission's proposals at its next meeting, to be held in June.

The committee took note of a statement by commissioner Giolitti, on the co-ordination of the community's financial instruments.

The commission had instructed Mr Giolitti to devise, within the context of the community's general economic, financial and social policy guidelines, an overall policy to cover all the means of intervention for structural purposes, and he wished to inform the committee of the progress made on this subject within the commission so that the dialogue between his institution and both sides of industry could continue.

More community news

Information on European community matters and about member states can often be found in other sections of *Trade and Industry*. For this week's additional news, turn to the following pages:

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Foreign ministers prepare mandates for negotiations

Preparation of mandates for negotiations which are either taking place this month or due to open shortly largely took up the council of EEC foreign ministers in Brussels on 3 May.

Future meetings of foreign ministers are also likely to be taken up with these preparations, David Owen, Secretary of State for Foreign and Commonwealth Affairs told the Commons on 4 May.

Dr Owen explained that these meetings included the Conference on International Economic Co-operation (CIEC) in Paris, textiles, third country fishery agreements, relations with Comecon and new trading arrangements with Cyprus. He added that such mandates were by their nature confidential.

Speaking of future meetings with EEC foreign ministers, David Owen said that he would meet them again informally at Leeds Castle on 21 and 22 May. He would also be meeting three EEC foreign ministers at the Downing Street Summit last Saturday and Sunday and seven EEC foreign ministers at the Nato ministerial meeting (10-11 May).

Progress on EEC passport

Two main features of the design of a uniform EEC passport are still to be agreed in Brussels, Frank Judd, Minister of State at the Foreign and Commonwealth Office told the Commons on 4 May. These concerned the layout of the cover and the languages to be used inside the passport. In addition there were other matters of detail to be discussed with community partners.

The passport would remain a national one and would be issued by the British government. Therefore, every holder of a British passport would have the new passport in due course, Mr Judd added.

EEC research grants to UK

The commission has approved three research projects and one research study in Britain to be given financial support from the EEC.

International Research and Development Co Ltd (IRD). The aim of the research is to design a heat pump system for operation at condensing temperatures of 120°C, using as the prime mover a gas engine with waste heat recovery in the exhaust and water jacket and, eventually, from the oil cooler. This programme consists of two stages: specification and design of the system with an economic analysis; procurement, installation and tests. Total cost: £22,466. Commission contribution over 12 months (1 March 1977 to 1 March 1978): £11,233.

National Radiological Protection Board, Harwell. Bringing together current knowledge on plutonium toxicity. Total cost: £5,070. Commission contribution: £2,535.

MRC Radiobiology, Harwell. Application to radiobiological problems of automated techniques for recognition of visual patterns. Total cost: £125,180. Commission contribution over the period 1 January 1977 to 31 December 1980: £43,813.

Imperial College of Science and Technology, Signal Processing, Dr Sayers. Setting up base norms for comparing quality medical equipment. Total cost borne by the commission: £3,012.

Generalised tariff preference scheme (GSP): Restoration of normal duties

Trade and Industry of 25 February, 18 March and 22 April gave details of GSP tariff quotas exhausted and GSP ceilings reached up to 1 April. HM Customs have stated that the position on the restoration of normal duties for the month ending 30 April is as follows (the Customs' quota reference* is given in brackets after the description of goods):

I Tariff quotas and special ceilings

Tariff heading/ description of goods	Date UK quote share ex-hausted	Community butoir or where applicable UK maximum cumulative amount (m.a.) reached: duty re-imposed	
ex 55.05 BII Cotton yarn, not put up for retail sale: Other – measuring per single yarn per kg more than 14,000m but not more than 40,000m (6224)	30.3.77		
ex 55.09 AII Other woven fabrics of cotton: containing 85% or more by weight of cotton. Other, other: – Unbleached, of a width of – More than 115cm but not more than 165cm (3708)	5.1.77	2.4.77 30.4.77	South Korea India
56.05 A Yarn of mmf. (discontinuous or waste), not put up for retail sale: – Of synthetic textile fibres (3821)		2.4.77	Malaysia
58.04 Woven pile fabrics and chenille fabrics (other than terry towelling or similar terry fabrics of cotton falling within heading no. 55.08 and fabrics falling within heading 58.05) (6437)	4.4.77		
ex 59.04 Twine cordage, ropes and cables, plaited or not: – Of sisal (Agave sisalana) (4002)	25.2.77	2.4.77	Brazil
60.03 Stockings, understockings, socks, etc., knitted or crocheted, but not elastic or rubberised (6674)		2.4.77	South Korea
60.04 Under-garments, knitted or crocheted not elastic or rubberised (6682)	12.4.77		
61.05 Handkerchiefs (6844)	31.1.77	2.4.77	South Korea
62.03 B1a), exb) and exII Sacks and bags of a kind used for the packing of goods: Of other textile material: – Used: Of flax or of sisal and – Other (excl. coir fibres) and – Other than used (excl. coir fibres) (6933)	31.3.77		
64.02 A Footwear with outer soles of leather, etc. – Footwear with uppers of leather (4231)	21.3.77	18.4.77	Yugoslavia
85.01 AII (S/C) Generators, motors (whether or not equipped with speed reducing, changing or step up gear) and rotary converters: Other (4886)		30.4.77	Yugoslavia
85.21 D and E Diodes, transistors and similar conductor devices; electronic micro-circuits; Parts (4924)	29.3.77	25.4.77	Philippines
85.23 (S/C) Insulated electric wire, cable, bars, strip, etc. (4932)		30.4.77	Yugoslavia
94.01 B Chairs and other seats (other than those falling within heading no. 94.02), whether or not convertible into beds, and parts thereof: Other (5067)		18.4.77	Yugoslavia
94.03 Other furniture and parts thereof (5075)		25.4.77	Yugoslavia

* See HM Customs Tariff, Part 11.
S/C Denotes Special Ceiling.

II Ceilings

Tariff heading/ description of goods	Date of restoration of duties: From all sources	From particular sources (inner ceilings)
31.02 C Mineral or chemical fertilisers, nitrogenous: Other		24.4.77 Yugoslavia
41.03 BII Sheep and lamb skin leather, except leather falling within heading no. 41.06, 41.07 or 41.08	29.4.77	24.4.77 India
ex 44.25 B Wooden tools, tool bodies, toolhandles, broom bodies and handles; Boot and shoe lasts and trees, of wood: Other		24.4.77 Brazil
55.06 Cotton yarn put up for retail sale	3.4.77	
59.05 Nets and netting made of twine, cordage or rope		9.4.77 Philippines
69.08 Glazed setts, flags and paving, hearth and wall tiles	3.4.77	

Inquiries about current availability of preferences may be made to HM Customs and Excise, Central Tariff Quota Registration Unit, King's Beam House, Mark Lane, London EC3R 7HE, tel. 01-626 1515, ext. 2570.

Tariff quotas 1977 – exhaustions

HM Customs have stated that the United Kingdom's share of the following EEC tariff quotas has been exhausted:

UK tariff heading	Description of goods	HM Customs serial no. (part 11 of the UK tariff)
ex 44.24	Household utensils, wood. HAND-MADE	1642

The United Kingdom's share of the following EEC tariff quota for imports from Turkey has also been exhausted:

UK tariff heading	Description of goods	HM Customs serial no. (part 11 of the UK tariff)
ex 08.05 G	Hazelnuts	1111

The following United Kingdom tariff quotas for imports of paper and board and printed products from individual Efta countries and Finland (see *Trade and Industry* of 17 December 1976) have also been exhausted:

UK tariff heading	Country of origin	HM Customs serial no. (part 11 of the UK tariff)
ex 48.07 BIc)1	Sweden	2648
ex 48.07B	Finland	2699
ex 48.07B	Sweden	2729
48.16	Sweden	2842
48.16	Switzerland	2869

Inquiries about current tariff quota balances may be made to HM Customs and Excise, Central Tariff Quota Registration Unit, King's Beam House, Mark Lane, London EC3R 7HE, tel. 01-626 1515, ext. 2570.

Portuguese exports of certain textile goods

Official Journal L71 of 18 March 1977 contains the text of council decision 77/225/EEC establishing for 1977 the maximum levels for exports to the UK of certain textile goods originating in Portugal. The goods affected are:

Tariff heading	Description	Volume in tonnes
55.05	Cotton yarn, not put up for retail sale	5,850
56.07	Woven fabrics of man-made fibres (discontinuous or waste)	3,500
60.04	Under garments, knitted or crocheted, not elastic or rubberised	2,000
60.05	Outer garments and other articles, knitted or crocheted, not elastic or rubberised	1,230
61.01	Men's and boys' outer garments	2,525
61.02	Women's, girls' and infants' outer garments	660
61.03	Men's and boys' under garments, including collars, shirt fronts and cuffs	955
62.02	Bed linen, table linen, toilet linen and kitchen linen; curtains and other furnishing articles	8,900

During 1977, Portugal will take the necessary measures to ensure that exports to the UK of the textile goods listed will not exceed the above specified levels. This is an extension of the undertaking entered into last year in connection with the additional protocol to the EEC-Portugal free trade agreement. (See *Trade and Industry* 25 June 1976, page 791.)

Portuguese exports of tomatoes

The *Official Journal of the European Communities* L90 of 8 April contains the text of council regulation (EEC) 742/77 relating to Portuguese exports of tomatoes to the community.

By an exchange of letters, Portugal will undertake to limit exports to the community of tomatoes prepared or preserved otherwise than by vinegar or acetic acid under tariff heading 20.02C to a maximum of 90,000 tonnes in 1977. This figure is comprised of 28,000 tonnes for the original Six and a total of 62,000 tonnes for Denmark, Ireland and the UK. There is no separate allocation for the UK out of this figure.

New legislation

The legislation listed below has been published in the *Official Journal of the European Communities* as indicated against each item. The *Official Journal* is now published in English and copies should be obtained from HMSO. Information about the items listed, in so far as other member states' requirements are concerned, is available to British exporters from Department of Trade, Export Services and Promotions Division, Export House, 50 Ludgate Hill, London EC4M 7HU, tel. 01-248 5757, ext. 7174/482/408. Other information may be obtained from the reference point given at the end of the item.

Common agricultural policy

The texts of the following regulations which affect the various agricultural sectors in the EEC have been published in the *Official Journal of the European Communities*.

General. Regulation (EEC) 878/77 on the exchange rates to be applied in agriculture (*Official Journal* L106, 29 April 1977).

Regulation (EEC) 937/77 laying down detailed rules for the application of regulation (EEC) 878/77 on the exchange rates to be applied in agriculture (*Official Journal* L110, 30 April 1977).

Dehydrated fodder. Regulation (EEC) 865/77 fixing the production aid for dehydrated fodder for the 1977/78 marketing year (*Official Journal* L106, 29 April 1977).

Silk and silkworms. Regulation (EEC) 866/77 fixing the amount of aid in respect of silkworms for the 1977/78 rearing year (*Official Journal* L106, 29 April 1977).

Regulation (EEC) 867/77 on the granting of supplementary aid in the silk-worm sector for the 1977/78 marketing year (*Official Journal* L106, 29 April 1977).

Fruit and vegetables. Regulation (EEC) 868/77 fixing certain prices and other amounts applicable in the fruit and vegetables sector for the 1977/78 marketing year (*Official Journal* L106, 29 April 1977).

Cattle, beef and veal. Regulation (EEC) 869/77 fixing the guide price and the intervention price for adult bovine animals for the 1977/78 marketing year (*Official Journal* L106, 29 April 1977).

Regulation (EEC) 891/77 laying down a special rule of application as regards import licences granted during the month of April 1977 in respect of frozen beef for processing (*Official Journal* L107, 29 April 1977).

Milk and milk products. Regulation (EEC) 920/77 amending in respect of the 1977/78 milk year various regulations concerning milk and milk products (*Official Journal* L108, 30 April 1977).

The *Official Journal* L106, 29 April 1977 contains the texts of the following regulations:

Regulation (EEC) 872/77 fixing the target price for milk and the intervention prices for butter, skimmed-milk powder and Grana Padano and Parmigiano Reggiano cheese for the 1977/78 milk year.

Regulation (EEC) 873/77 fixing the threshold prices for certain milk products for the 1977/78 milk year.

Regulation (EEC) 874/77 amending regulation (EEC) 823/68 as regards the conditions for the entry of certain cheeses under certain tariff headings and regulation (EEC) 950/68 on the common customs tariff.

Regulation (EEC) 875/77 amending regulations (EEC) 1961/75 and (EEC) 3066/75 on the prohibition of the use of inward processing arrangements in respect of skimmed-milk powder and butter. In the second paragraph of article 3 of regulation (EEC) 1961/75 and article 1 of regulation (EEC) 3066/75, the date '30 April 1977' is replaced by '31 March 1980'.

Regulation (EEC) 876/77 amending regulation (EEC) 986/68 laying down general rules for granting aid for skimmed milk and skimmed-milk powder for use as feed.

Regulation (EEC) 877/77 amending regulation (EEC) 1807/76 on the granting of special aid for liquid skimmed milk for use as feedingstuffs for certain animals in regions affected by drought. Article 2 (2) of regulation 1807/76 is replaced by 'It shall apply until 31 May 1977', and regulation (EEC) 650/77 is repealed with effect from 1 April 1977.

Regulation (EEC) 880/77 on the granting of a consumer subsidy for butter.

Fish and fish products. Regulation (EEC) 879/77 amending regulation (EEC) 350/77 laying down certain interim measures for the conservation and management of fishery resources. In article 1 (1), '30 April 1977' shall be replaced by '31 May 1977'. In article 1 (2), first subparagraph, '1 May 1977' shall be replaced by '1 June 1977'.

Commercial policy

Textile imports. *Trade and Industry* dated 29 April 1977, page 178 contained a notice to importers no. 1612 setting out the arrangements for cotton yarn coming from India. The text of regulation (EEC) 841/77 establishing interim protective measures with regard to imports into the United Kingdom of Great Britain and Northern Ireland of cotton yarn, not put up for retail sale, originating in the Republic of India from which these arrangements stem has been published in the *Official Journal of the European Communities* L103, 27 April 1977.

The *Official Journal of the European Communities* L103, 27 April 1977 contains the text of regulation (EEC) 842/77 subjecting to authorisation imports into the United Kingdom of certain knitted or crocheted under garments originating in the Republic of India.

Further information: Department of Industry, Chemicals and Textiles Division, Millbank Tower, Millbank, London SW1P 4QU, tel. 01-211 6023.

The *Official Journal of the European Communities* L104, 28 April 1977 contains the texts of the following regulations:

Regulation (EEC) 845/77 maintaining in force until 31 March 1978 the arrangements for the authorisation of imports into France and into the United Kingdom of certain knitted or crocheted under garments originating in the Philippines or Thailand introduced by regulations (EEC) 557/77 and 558/77.

Regulation (EEC) 848/77 maintaining in force until 31 December 1977 the import arrangements in the community for shirts and blouses originating in India introduced by regulation (EEC) 561/77.

Changes in the customs documentation of UK-Channel Islands traded goods

The elimination of customs charges (other than VAT) on free circulation goods moving between member states of the EEC will be completed at the end of the transitional perioo and will apply to goods traded between the Channel Islands and all the member states including the UK

The transitional period ends on 30 June 1977 for almost all goods except certain horticultural goods for which it ends on 31 December 1977.

From 1 July, therefore, for most goods except horticultural goods, an entry for admission free of customs duty may be supported by a form T2L or equivalent issued in the Channel Islands in place of the certificates of origin or returned goods declarations at present in use.

For the horticultural produce which remains liable to intra-community duty until 31 December entry into the UK free of duty will continue to be based on the certificate of origin procedure under the provisions of section 37 of the Customs and Excise Act 1952 which is described in part III of customs notice no. 17. From 1 January 1978 form T2L issued in the Channel Islands may be used in place of the certificate of origin. Forms T2L covering bulk importations will be accepted under the same conditions as certificates of origin for bulk importations as at present.

The forms of import entry currently accepted will continue to be accepted until the new single form of entry for all importations is introduced (probably on 1 October 1977). The introduction of this form will not affect the present arrangements whereby a single entry is accepted for a consignment intended for several separate UK customers nor will it affect the present arrangements for accounting for VAT in such cases.

After the end of the transitional periods referred to in paragraph one goods will be regarded as liable to the appropriate CCT rate of customs charges on importation into the Channel Islands unless community transit documentation (normally movement certificate form T2L) establishing their community status is presented to the Channel Islands authorities.

The form of entry required will be as directed by those authorities.

These changes are described in notice no. 17A which may be obtained from HM Customs and Excise, King's Beam House, Mark Lane, London EC3R 7HE. Inquiries on community transit should be addressed to HM Customs and Excise, IC Division D, Branch 1, King's Beam House, Mark Lane, London EC3R 7HE, 01-626 1515 ext. 2081. Inquiries on other customs aspects of trade with the Channel Islands should be addressed to HM Customs and Excise, IC Division E, Branch 1, Adelaide House, London Bridge, London EC4R 9DB (tel. 01-626 1515 ext. 2453).

Statistics

The economy: selected indicators

Series are seasonally adjusted except where shown otherwise

	Gross domestic product (average estimate)	Consumers' expenditure	Fixed capital expenditure			Changes in stocks				Balance of payments		
			Total	of which: Manufacturing industry	of which: Distributive and service industries excl. shipping	Total	of which: Manufacturing industry	of which: Wholesalers	of which: Retailers	Current balance	Visible balance	Invisible balance
	at 1970 prices		at 1970 prices			at 1970 prices				at current prices		
Base of index Series in Stock level at end-1976	1970	£ million	£ million			£ million 18,218	10,396	1,829	1,977	£ million		
1970	100.0	31,644	9,453	2,130	1,799	442	325	68	−14	733	−25	758
1971	101.7	32,505	9,681	1,991	1,930	99	−148	52	22	1,087	280	807
1972	104.3	34,402	9,870	1,739	2,071	39	−145	48	15	131	−702	833
1973	110.3	36,003	10,279	1,872	2,390	1,127	404	102	382	−752	−2,334	1,582
1974	109.8	35,590	10,124	2,024	2,289	602	666	81	−111	−3,380	−5,221	1,841
1975	107.6	35,234	9,991	1,737	1,970	−680	−392	−111	−23	−1,635	−3,195	1,560
1976	108.9	35,290	9,562	1,651	1,898	−8	−4	22	1	−1,423	−3,592	2,169
1975 1st qtr.	109.4	8,988	2,534	471	492	−125	18	−31	−38	−544	−947	403
2nd qtr.	107.2	8,833	2,474	444	498	−267	−105	−54	−66	−295	−655	360
3rd qtr.	106.5	8,724	2,540	416	501	−208	−234	−29	38	−566	−967	401
4th qtr.	107.4	8,689	2,443	406	480	−80	−70	4	43	−230	−626	396
1976 1st qtr.	109.2	8,811	2,460	402	452	25	31	24	12	−80	−538	458
2nd qtr.	108.3	8,730	2,394	408	479	−97	−115	−22	−55	−439	−919	480
3rd qtr.	108.4	8,824	2,392	418	484	−22	4	10	22	−536	−1,148	612
4th qtr.	109.7	8,925	2,316	422	483	86	77	10	22	−368	−987	619
1977 1st qtr.		8,740 pe								−293	−953	660
% change last 2 qtrs. on prev. 2 qtrs.	+0.3	+0.6	−3.0	+3.7	+3.9							
on a year earlier	+2.0	+0.9	−5.5	+2.2	−1.4							

	Industrial production		Personal expenditure		Prices and costs (NOT seasonally adjusted)					Labour (UK)			Visible Trade (Volume)	
	Total all industries	Total manufacturing industries	Retail sales	Cars: new registrations	Retail prices	% increase on a year earlier	Wholesale prices: all manufacturing industry: basic materials and fuel used	Wholesale prices: all manufacturing industry: manufactured products: home sales	Basic hourly wage rates of manual workers (all industries and services)	Unemployed excluding school leavers and adult students: mid-month count	Unemployed excluding school leavers and adult students: % of total employees	Unfilled vacancies for adults: mid-month count	Export	Import
	at 1970 prices		at 1971 prices	monthly averages									On a balance of payments basis at 1970 prices	
Base of index £m in base year Series in	1970	1970	1971 15,895	thousands	Jan. 1974		1970	1970	July 1972	thousands		thousands	1970 7,907	1970 7,932
1971	100.5	99.7	100.0	108.5	153.4†	9.4	104.6	109.0	88.9	775.8	3.4	130.9	106.7	104.2
1972	102.7	102.4	105.8	138.6	164.3†	7.1	109.2	114.8	101.4	854.9	3.7	147.3	107.1	116.7
1973	110.3	110.0	110.7	137.1	179.4†	9.2	144.5	123.2	115.6	611.0	2 6	307.0	122.2	133.8
1974	106.4	108.2	109.9	102 8	108.5	16.0	215.3	152.0	138.7	599.7ø	2.6ø	302.7ø	131.2	136.2
1975	101.3	101.7	107.9	97.2	134.8	24.2	235.4	188.7	179.8	929.0	3.9	150.0ø	125.6	126.4
1976	102.2	103.4	108.1	104.7	157.1	16.5	299.0	219.6	214.5	1,269.8ø	5.4ø	120.4ø	135.9	134.2
1976 1st qtr.	101.9	101.8	107.3	103	149.4	22.5	266.5	206.9	205.5	1,220.3	5.2	116.7	131.5	126.1
2nd qtr.	102.4	103.6	107.6	106	154.9	16.0	292.6	214.4	212.8	1,252.1	5.3	119.4	137.1	134.6
3rd qtr.	101.5	103.4	108.9	97	158.5	13.7	306.8	223.2	218.6	1,305.5	5.5	123.6	134.2	137.9
4th qtr.	103.2	104.5	108.5	113	165.8	15.0	329.9	233.9	220.6	1,316.8ø	5.6ø	..	140.8	138.1
1977 1st qtr.			105.0	104	174.1	16.5	341.5 p	248.0 p	224.6 p	1,330.2	5.6		140.5 p	142.1 p
1976 Apr.	102.4	103.3	108.8	116	153.5	18.9	286.3	211.5	210.1	1,241.8	5.3	122.5	135.6	132.1
May	104.5	106.4	106.8	110	155.2	15.4	292.0	214.8	211.7	1,253.3	5.3	120.0	137.2	134.7
June	100.4	101.0	107.3	91	156.0	13.8	299.6	217.0	216.6	1,261.1	5.3	115.7	138.5	137.1
July	101.4	103.6	108.8	91	156.3	12.9	302.0	219.8	219.0	1,288.9	5.5	118.6	130.4	139.4
Aug.	100.6	102.4	108.9	115	158.5	13.8	304.0	223.4	219.1	1,308.8	5.6	126.2	134.9	133.7
Sept.	102.4	104.3	108.9	86	160.6	14.3	314.4	226.3	219.2	1,318.7	5.6	125.9	137.3	140.4
Oct.	103.0	105.0	108.1	109	163.5	14.7	327.7	230.0	219.5	1,307.9	5.5	124.5	140.8	140.6
Nov.	103.4	104.9	109.2	119	165.8	15.0	331.8	234.6	220.7	..	..	..	138.1	140.1
Dec.	103.2	103.7	108.3	111	168.0	15.1	330.2	237.2	221.5	1,325.7 e	5.6 e	..	143.3	133.6
1977 Jan.	104.3	105.1	106.7	93	172.4	16.6	337.8	244.9	223.8	1,338.2	5.7	..	140.6	153.6
Feb.	104.0 p	105.2 p	105.7	118	174.1	16.2	339.5	248.2	224.8	1,331.4	5.6	150.5	138.0	133.8
Mar.			103.1	102	175.8	16.7	347.2 p	250.8 p	225.1 p	1,321.1	5.6	157.3	142.8 p	139.0 p
Apr.				105 p			349.1 p	255.1 p		1,322.6 p	5.6 p	158.5 p		
% change latest 3 months on prev. 3 months	+0.9	−0.1	−3.2	+0.6	+5.0		+3.6	+5.2	+1.8	−0.1			—	+3
a year earlier	+2.7	+3.6	−2.1	+1.9	+16.5		+25.6	+20.2	+9.3	+7.5			+7	+13

p Provisional pe Preliminary estimate † Base of index Jan. 1962 = 100 .. not available ø Average of available months e estimate

Inquiries: 01-215 3453

Acquisitions and mergers of industrial and commercial companies: first quarter 1977

The number of acquisitions of industrial and commercial companies rose in the first quarter of 1977 compared with the previous quarter, but the total amount paid for acquisitions fell, with fewer acquisitions for amounts over £5 million. Apart from the previous quarter, however, the amount was still higher than in any quarter since the second quarter of 1974.

The financial press reported 94 companies acquired for £126 million in the first quarter of 1977 compared with 72 companies acquired for £154 million in the previous quarter. Table 1 shows that the figures for the latest quarter represent a continuation of the low level of acquisition activity that has been evident since the middle of 1974. The table also shows that the changes in the latest quarter compared with the previous quarter were concentrated in acquisitions of independent companies; the number of subsidiary companies that were acquired, and the amount paid for them, in the first quarter of 1977 were much the same as in the previous quarter.

The largest acquisition during the first quarter of 1977 was that of Mather and Platt acquired by Wormald International Holdings (UK) for £31.4 million. The three other acquisitions during the quarter for amounts of over £10 million were that of Kinloch (Provision Merchants) acquired by Booker McConnell for £12.1 million, Dunford and Elliott by Lonrho for £10.7 million, and Head Wrightson and Co by Davy International for £10.1 million.

Table 2 shows that the 11 largest acquisitions (12 per cent of the total number) accounted for 75 per cent of the total expenditure in the quarter, while the remaining 83 acquisitions (88 per cent of the total number), which were acquired for £2 million or less, accounted for 25 per cent of the total expenditure. The average cost of acquisitions in the first quarter of 1977 was £1.3 million compared with £2.1 million in the previous quarter and £1.2 million during 1976 as a whole.

Table 3 shows that the proportion of expenditure in the form of cash rose in the first quarter of 1977, following falls in the two preceding quarters, and it again accounted for a much larger proportion of total expenditure than the other forms of payment. The proportion of expenditure accounted for by issues of ordinary shares fell in the first quarter, following rises in the two preceding quarters. The proportion of expenditure accounted for by issues of fixed interest securities has been very small in most recent quarters and in the first quarter of 1977 virtually no payments were made in that way.

The proportion of total expenditure accounted for by each of these three methods of payment tends to vary considerably from quarter to quarter. However, the proportion in cash has tended to be high since the beginning of 1973, compared with earlier years, and the proportions in ordinary shares and in fixed interest securities have tended to be low. The proportion in fixed interest securities has generally been very low since the beginning of 1974. This pattern has continued into the first quarter of 1977.

Tables 1, 2 and 3 are taken from a more detailed analysis published in Business Monitor M7, Acquisitions and Mergers of Industrial and Commercial Companies (obtainable from HMSO each quarter for an annual subscription of £1.00). The Business Monitor also contains tables analysing acquisitions and mergers by industry.

Notes

This analysis relates only to industrial and commercial companies in the United Kingdom and is based on reports in the financial press supplemented by special inquiries to companies to determine the form, value and timing of particular acquisitions. The Bank of England compiles an analysis of acquisitions and mergers relating to financial companies (banks, insurance companies, etc) which is published in the *Bank of England Quarterly Bulletin*.

No method of valuing acquisitions is altogether free from objection. The values shown here relate in general to expenditure during the current period, excluding any previous investments in the company acquired. Where possible, the values are market values, ie the cash paid or the market price at date of issue of shares or loan stock issued. Where market values are not available (as in the case of unlisted securities) or the cash payment is not disclosed, acquisitions are in general valued at the net book value of the acquired company. When comparing the series over time one must allow for the considerable short-term fluctuations in share prices, in addition to allowing for the general inflation of values.

Where the acquired company was a subsidiary of another United Kingdom company, the transaction is classified as a sale between

TABLE 1 Acquisitions and mergers within the United Kingdom

	Total all acquisitions and mergers			Acquisitions of independent companies and mergers: Total			Acquisitions of independent companies			Mergers†			Sales of subsidiaries between company groups		
	Number acquiring	Number acquired	Value £ million	Number acquiring	Number acquired	Value £ million	Number acquiring	Number acquired	Value £ million	Number acquiring	Number acquired	Value £ million	Number acquiring	Number acquired	Value £ million
1969	686	846	1,068.9	595	744	969.2	593	742	961.6	2	2	7.6	91	102	99.7
1970	629	793	1,122.5	490	614	996.6	484	608	954.1	6	6	42.5	139	179	125.9
1971	687	884	911.1	498	620	745.6	498	620	745.6	—	—	—	189	264	165.5
1972	928	1,210	2,531.6	716	938	2,346.2	710	931	2,336.9	6	7	9.3	212	272	185.4
1973	929	1,205	1,304.3	724	951	1,057.5	722	949	1,055.2	2	2	2.3	205	254	246.8
1974	427	504	508.4	307	367	459.1	306	366	451.6	1	1	7.5	120	137	49.3
1975	276	315	290.8	180	200	221.0	177	197	215.1	3	3	5.9	96	115	69.8
1976	315	353	427.2	218	242	327.5	217	241	327.1	1	1	0.4	97	111	99.7
1974 1st quarter	152	191	252.6	116	149	231.3	116	149	231.3	—	—	—	36	42	21.3
2nd quarter	105	128	129.8	68	83	118.1	68	83	118.1	—	—	—	37	45	11.7
3rd quarter	90	101	75.5	65	74	66.5	64	73	59.0	1	1	7.5	25	27	9.0
4th quarter	80	84	50.5	58	61	43.2	58	61	43.2	—	—	—	22	23	7.3
1975 1st quarter	50	56	47.1	35	37	38.4	34	36	36.9	1	1	1.5	15	19	8.7
2nd quarter	82	99	50.8	52	62	38.0	51	61	37.4	1	1	0.6	30	37	12.8
3rd quarter	81	88	111.9	50	55	77.5	50	55	77.5	—	—	—	31	33	34.4
4th quarter	63	72	81.0	43	46	67.1	42	45	63.3	1	1	3.8	20	26	13.9
1976 1st quarter	82	93	71.3	62	71	65.3	61	70	64.9	1	1	0.4	20	22	6.0
2nd quarter	81	93	93.3	49	55	44.3	49	55	44.3	—	—	—	32	38	49.0
3rd quarter	86	95	108.1	55	60	76.3	55	60	76.3	—	—	—	31	35	31.8
4th quarter	66	72	154.5	52	56	141.6	52	56	141.6	—	—	—	14	16	12.9
1977 1st quarter	86	94	126.2	71	79	117.2	71	79	117.2	—	—	—	15	15	9.0

† A merger (which takes place when two companies combine to form a new company) is reckoned as the acquisition of the smaller company by the larger and is valued at the market value of the smaller company's share of the newly formed company.

company groups. Acquisitions between subsidiaries of the same company group, in the course of internal reorganisation, have been ignored.

As far as possible, acquisitions are recorded at the date when the transaction is finalised (eg when a bid is declared unconditional). This date usually comes before the date on which the shares in the acquired company are surrendered, although it may be considerably later than the date when the bid is first announced in the press.

Inquiries concerning this article should be addressed to: Economics and Statistics Division 6a, Departments of Industry, Trade, and Prices and Consumer Protection, Room 142, 1 Victoria Street, London SW1H 0ET, tel. 01-215 5538.

TABLE 2 Size distribution of acquisitions within the United Kingdom

Expenditure	1975		1976		1976 2nd quarter		1976 3rd quarter		1976 4th quarter		1977 1st quarter	
	Number acquired	Value £m	Number acquired	Value £m	Number acquired	Value £m	Number acquired	Value £m	Number acquired	Value £m	Number acquired	Value £m
Over 25	1	32.4	1	47.5	—	—	—	—	1	47.5	1	31.4
Over 5 and up to 25	12	100.6	17	152.9	4	30.9	3	22.4	7	67.2	4	41.0
Over 2 and up to 5	24	71.3	31	103.3	9	32.5	13	44.3	5	14.1	6	22.2
2 or less	278	86.5	304	123.5	80	29.9	79	41.4	59	25.7	83	31.6
Total	315	290.8	353	427.2	93	93.3	95	108.1	72	154.5	94	126.2

TABLE 3 Categories of expenditure on acquisitions and mergers within the United Kingdom

	Expenditure (£ million)				Percentage of expenditure		
	Total	Cash	Issues of ordinary shares	Issues of fixed interest securities	Cash	Issues of ordinary shares	Issues of fixed interest securities
1969	1,069	296	552	221	27.7	51.6	20.7
1970	1,122	251	596	275	22.4	53.1	24.5
1971	911	285	437	189	31.3	48.0	20.7
1972	2,532	493	1,459	580	19.5	57.6	22.9
1973	1,304	691	466	147	53.0	35.7	11.3
1974	508	347	114	47	68.3	22.4	9.3
1975	291	173	93	25	59.4	32.0	8.6
1976	427	302	119	7	70.7	27.8	1.6
1974 1st quarter	252.6	189.8	51.0	11.8	75.1	20.2	4.7
2nd quarter	129.8	68.9	27.3	33.6	53.1	21.0	25.9
3rd quarter	75.5	42.3	32.6	0.6	56.1	43.1	0.8
4th quarter	50.5	46.2	3.3	1.0	91.5	6.5	2.0
1975 1st quarter	47.1	38.7	7.1	1.3	82.2	15.0	2.8
2nd quarter	50.8	33.5	17.3	—	65.9	34.1	—
3rd quarter	111.9	64.4	24.0	23.5	57.6	21.4	21.0
4th quarter	81.0	36.2	44.6	0.2	44.7	55.1	0.2
1976 1st quarter	71.3	37.9	32.6	0.8	53.2	45.7	1.1
2nd quarter	93.3	83.1	9.5	0.7	89.1	10.2	0.7
3rd quarter	108.1	81.0	26.6	0.5	74.9	24.6	0.5
4th quarter	154.5	99.8	49.8	4.9	64.6	32.2	3.2
1977 1st quarter	126.2	91.1	35.0	0.1	72.2	27.7	0.1

SIC (1968) amendment

Statistical News 34.44 reported that owing to severe limitations on staff resources the introduction of a fully revised standard industrial classification (SIC) had been postponed but that some early minor modifications to the present (1968) SIC would be considered. It has now been decided that the only immediate revisions necessary are an expansion of the description of MLH 104, petroleum and natural gas, and consequential additions to the alphabetical list of industries.

The amendments to the description and to the existing alphabetical list are shown below. The amendments take effect immediately.

MLH 104 Petroleum and Natural Gas[1]
Revised description:

Exploration for and extraction of petroleum on land and offshore; 'petroleum' in this context includes mineral oil, natural gas and natural gas condensates. The Heading includes the activities of holders of petroleum exploration and production licences. Also included are the activities of licensees' contractors and agents providing services unique to this industry and not allocable to any other Heading in the classification, eg well drilling, seismic surveying specifically for petroleum deposits and offshore pipelaying. (The provision of other services, eg manufacturing, repairing, catering, transport, procurement or hiring should be included in the appropriate Headings elsewhere in the classification.)

Mining and retorting of oil shale are included under this Heading. Also included is the operation of land terminals for stabilisation, separation and storage, and of offshore or land pipelines between well-head and terminal. Other land pipelines are classified to Heading 262 if feeding a refinery, Heading 601 if part of the distribution of gas or Heading 811 if part of the distribution of fuel.

[1] 'Amendment List 1 to Standard Industrial Classification (Revised 1968)' (HMSO: 10p) ISBN 0 11 630166 X.

Alphabetical list of industries (incorporating amendment no. 1 – reprinted 1974)[2]
Additional entries:

Description	MLH
Drilling for oil or gas well	104
Floating drilling rig operation (for petroleum or natural gas exploration or production)	104
Geological surveying for petroleum or natural gas (not geological consultancy)	104
Module manufacture for oil platform or oil rig	341/5
Natural gas:	
separation plant operation	104
Offshore pipeline (from petroleum or gas well):	
installation	104
operation	104
Oil production platform (fabrications for) manufacturing:	
of iron and steel	341/5
other (concrete or composite steel/concrete)	500
Oil production well or platform operation	104
Oil stabilisation plant operation	104
Seismic surveying for petroleum	104
Separation terminal operation (natural gas)	104
Well drilling (petroleum)	104
Well-head units (oil or natural gas) manufacture (including remotely controlled and serviced satellites)	341/2
Well logging (petroleum)	104

[2] 'Amendment List 2 to SIC (Revised 1968) Alphabetical List of Industries' (HMSO: 10p) ISBN 0 11 630167 8.

Hire-purchase and other instalment credit business in March 1977

Finance houses and retailers advanced £354 million in new instalment credit agreements in March (seasonally adjusted). Within this total, finance houses' lending showed an increase over previous months whereas retailers' lending was slightly lower than in January and February. In the first quarter of 1977, total advances were 5 per cent up on the fourth quarter of 1976. Finance houses' lending increased by 12 per cent between these two periods; there was virtually no change in the amount lent by retailers.

The average weekly value of retailers' instalment credit sales was the same in March as in February. There was little change in the total sales in the first quarter of 1977 compared with the first quarter of 1976. Credit sales by durable goods shops decreased by 7 per cent and those by department stores by 2 per cent. Credit sales by other instalment credit retailers (including mail-order houses) increased by 3 per cent between the two quarters.

The debt outstanding to retailers and finance houses increased by £50 million in March, bringing the total increase in the first quarter of 1977 to £140 million, £20 million higher than that for the last quarter of 1976. Amounts outstanding to finance houses increased by £84 million during the first quarter of 1977 and those to retailers by £56 million. At the end of March the total amount outstanding to finance houses and retailers was £2,737 million (*not* seasonally adjusted), 19 per cent more than a year earlier.

Inquiries concerning this article should be addressed to: Departments of Trade, Industry, and Prices and Consumer Protection, Economics and Statistics Division 6a, (Room 349), Sanctuary Buildings, 20 Great Smith Street, London SW1P 3DB, tel. 01-215 3162.

TABLE 1 Hire-purchase and other instalment credit business seasonally adjusted £ million

	Total		Finance houses†		Retailers‡	
	New credit extended	Change in debt	New credit extended	Change in debt	New credit extended	Change in debt
1971	2,053	240	990	165	1,063	75
1972	2,497	424	1,222	296	1,275	128
1973	2,871	438	1,453	332	1,418	106
1974	2,517	−155	1,037	−160	1,480	5
1975	2,992	−10	1,201	−55	1,791	45
1976	3,606	342	1,531	202	2,075	140
1975 1st quarter	715	−10	286	−11	429	1
2nd quarter	759	14	309	−11	450	25
3rd quarter	749	−4	303	−17	446	13
4th quarter	769	−10	303	−16	466	6
1976 1st quarter	844	37	342	1	502	36
2nd quarter	875	79	384	59	491	20
3rd quarter	915	106	391	60	524	46
4th quarter	972	120	414	82	558	38
1977 1st quarter	1,020	140	463	84	557	56
1976 June	292	27	132	19	160	8
July	291	31	126	24	165	7
August	305	39	129	19	176	20
September	319	36	136	17	183	19
October	310	36	128	23	182	13
November	332	51	139	26	193	25
December	330	33	147	33	183	—
1977 January	324	41	135	11	189	30
February	342	49	157	32	185	17
March	354	50	171	41	183	9
1976 Oct-Dec	972	120	414	82	558	38
1977 Jan-Mar	1,020	140	463	84	557	56
Percentage increase	5		12		—	
Debt outstanding at 31 December 1976 (unadjusted)	—	2,662	—	1,625	—	1,037

† Direct business only: ie excluding agreements block discounted with finance houses by retailers.
‡ Durable goods shops, department stores and 'other instalment credit retailers.' For further definitions see footnote to table 2.

TABLE 2 Retailers' instalment credit sales seasonally adjusted

Index numbers of value of sales per week (current prices) 1966 = 100

	Total†	Durable goods shops	Department stores	Other instalment credit retailers‡
HP and other instalment credit sales in 1966§				
£ million	(862)	(327)	(46)	(489)
1971	134	138	138	131
1972	158	162	157	155
1973	176	165	181	183
1974	184	132	193	217
1975	218	161	231	254
1976	252	194	257	292
1975 1st quarter	208	153	228	244
2nd quarter	220	174	223	250
3rd quarter	217	157	229	257
4th quarter	226	163	242	267
1976 1st quarter	243	189	263	277
2nd quarter	239	187	227	275
3rd quarter	257	196	259	297
4th quarter	272	202	279	317
1977 1st quarter	272	188	274	327
1976 June*	234	187	247	265
July	241	196	240	272
August	258	194	242	302
September*	268	198	287	314
October	266	204	282	306
November	281	209	307	326
December*	269	195	253	320
1977 January	275	193	282	330
February	270	186	270	326
March*	270	186	272	326
1976 Oct-Dec av.	272	202	279	317
1977 Jan-Mar av.	272	188	274	327
Percentage increase	—	−7	−2	3

† Durable goods shops, department stores and 'other instalment credit retailers'.
‡ General stores (other than department stores), general mail order houses and co-operative societies' non-durable goods departments.
§ Excluding sales against checks issued by other organisations.
The monthly periods for retailers consist of four weeks except those marked * which are of five weeks. The period covered by March 1977 sales was the five weeks from 27 February 1977 to 2 April 1977. The corresponding period in 1976 was from 29 February 1976 to 3 April 1976.

Detailed statistics of United Kingdom overseas trade

Each month the overseas trade statistics give a considerable amount of detail about United Kingdom imports, exports of commodities and, for many of them the most important countries. The information in these statistics is a summary of much more detailed information. This is derived from declarations made by traders to HM Customs and Excise under the descriptions in the tariff and overseas trade classification (which has over 11,000 commodity headings); there are 199 specified countries.

The fully detailed information is not published on a monthly basis but when circumstances allow. HM Customs and Excise can supply detailed information about trade under individual descriptions of the tariff and overseas trade classsification and with individual countries or through United Kingdom ports, either for particular months or for longer periods. A charge is made which covers the cost of the service.

Applications should be made to the Statistical Office, Bill of Entry Section, HM Customs and Excise, 27 Victoria Avenue; Southend-on-Sea, Essex, SS2 6AL, tel. Southend (0702) 49421, ext. 316 or 323 for imports, or ext. 314 or 315 for exports; Telex 99112 CUSEX Southend.

Energy consumption still rising

During the three-month period December 1976 to February 1977 total energy consumption on a primary fuel input basis was 6 per cent higher than in the same period a year ago.

The colder weather, particularly in January, helped to cause this increase. After temperature correction and seasonal adjustment, total consumption measured at an annual rate was about four per cent higher than last year.

Taking the year 1976 as a whole, final consumption of energy rose by 2.6 per cent in total. Coal fell by 6.1 per cent though other solid fuels rose 3.8 per cent. Electricity was only 0.5 per cent above the level of 1975 while petroleum rose by 2.0 per cent and gas by 9 per cent.

This is stated in the Department of Energy's monthly statistical bulletin *Energy Trends* published on 28 April.

Provisional figures of energy consumption by final users on a heat supplied basis during the fourth quarter of 1976 show that total consumption rose to 5.1 per cent above the level of the fourth quarter of 1975.

Consumption was high in each of the individual consuming sectors. The largest increase was registered in the iron and steel industry. The rise of 15 per cent reflects the industry's improved level of output in that period.

In the domestic sector energy consumption in the fourth quarter of 1976 was higher by 6.6 per cent than in the corresponding period a year ago. This period was much colder and wetter than a year earlier and much of the increase is probably attributable to these conditions.

Coal: productivity levels higher

Total coal consumption during the first quarter of 1977 was over 35.5 million tons – 3.3 per cent higher than last year.

Disposals of coal to industry were about 12 per cent higher than a year ago. Power stations and coke ovens using 5.2 and 5.8 per cent more respectively. Deliveries to all other consuming sectors declined and those for house coal dropped by 8.8 per cent.

Output of deep-mined coal during the period January to March 1977 was four per cent lower than a year ago at almost 28 million tons.

Productivity measured in terms of output per man-shift improved in March to 45.8 cwts, the highest output level for 12 months.

There was also an increase in colliery manpower during March with over 1,000 men being recruited.

Gas: industrial consumption up

Over the three-month period January to March 1977, total gas sent out was 3.6 per cent higher than in the corresponding period of 1976. However, send-out was slightly below last year's level during the two most recent months of the period.

The figures for gas sales in 1976 show that almost 14 thousand million therms were sold – an increase of 6.8 per cent on the previous year.

Combined sales of gas to the iron and steel industry and other industries rose by over 12 per cent. In volume terms this represents over two-thirds of the increase in total gas sales during the year.

Electricity: domestic consumption down but industrial higher

During the three-month period December 1976 to February 1977, 6.5 per cent more electricity was supplied than in the same period last year. February 1977 was, however, substantially warmer than February 1976 and electricity supplied was lower.

The 4.7 per cent rise in sales in the last quarter of 1976 meant that over the whole year total sales of electricity were 1.3 per cent higher than in the previous year.

During 1976 as a whole sales to domestic consumers fell by 4.7 per cent to their lowest level since 1971. Sales to the iron and steel industry and other industries increased by 12.6 and 5.6 per cent respectively.

Petroleum: crude imports falling

North Sea crude oil accounted for a quarter of total refinery during the period December to February. Net arrivals of crude oil from overseas were nearly a fifth lower than a year ago.

In the latest three-month period, net trade in petroleum products swung from net arrivals to net shipment.

Inquiries: 01-211 3000.

Production of man-made fibres in February

In the three months ended February 1977, the volume of production of man-made fibres, seasonally adjusted, was estimated to have been 5 per cent more than in the three months ended November 1976. Total production by weight of man-made fibres in January-February 1977 was 6 per cent lower than in January-February 1976, output of continuous filament decreased by 9 per cent and staple fibre decreased by 4 per cent.

Man-made fibre production

Thousand metric tons

		Total	Continuous filament (singles)	Staple fibre
1968		539.1	241.8	297.4
1969		553.9	252.5	301.5
1970		599.4	257.6	341.9
1971		613.1	276.4	336.7
1972		626.5	264.0	362.5
1973		730.8	305.6	425.3
1974		627.6	271.0	356.6
1975		562.5	246.5	316.0
1976		618.4	270.7	347.7
1975	1st quarter	129.1	56.4	72.7
	2nd quarter	148.8	61.9	86.9
	3rd quarter	134.1	58.5	75.7
	4th quarter	150.4	69.7	80.7
1976	1st quarter	159.8	70.0	89.8
	2nd quarter	157.5	69.7	87.7
	3rd quarter	140.4	62.4	78.0
	4th quarter	160.7	68.6	92.1
1976	January	53.3	24.1	29.2
	February	52.3	22.6	29.7
	March	54.1	23.2	30.9
	April	53.1	22.1	31.0
	May	53.6	23.9	28.6
	June	51.8	23.7	28.0
	July	46.7	21.1	25.6
	August	43.8	19.5	24.3
	September	49.9	21.8	28.1
	October	53.0	22.7	30.3
	November	54.3	23.3	31.0
	December	53.4	22.6	30.8
1977	January	49.1	20.9	28.2
	February	50.3	21.8	28.5

Index of the volume of production

1970 = 100

1968		87
1969		92
1970		100
1971		106
1972		107
1973		127
1974		111
1975		101
1976		112
		Actual	Seasonally adjusted
1975	1st quarter	92	92
	2nd quarter	104	102
	3rd quarter	96	100
	4th quarter	112	109
1976	1st quarter	116	116
	2nd quarter	115	113
	3rd quarter	104	109
	4th quarter	115	113
1976	January	116	121
	February	118	117
	March	113	110
	April	115	107
	May	114	113
	June	117	118
	July	105	107
	August	96	108
	September	111	110
	October	113	102
	November	120	116
	December	113	121
1977	January	106	109
	February	118	115

Inquiries: 01-212 0017 or 01-212 6474.

Production in the cotton industry in February

Statistics issued by the Textile Statistics Bureau show that in January-February 1977 the amount of cloth woven was 5 per cent less than in January-February 1976. Production of single yarn increased by 6 per cent and doubled yarn increased by 7 per cent.

Production in the cotton industry

Annual totals and weekly averages

	Single yarn (†)		Doubled yarn		Woven cloth	
	Cotton yarn (‡)	Spun man-made yarns and mixture yarn, inc. waste	Cotton yarn	Other	Cotton	Man-made fibre and mixtures
	million kg.				million metres	
1968	171.2	67.5	49.9	52.0	668.2	507.3
1969	166.2	73.2	46.8	60.9	661.5	538.1
1970	158.7	77.4	43.2	57.3	627.6	484.3
1971	133.0	83.3	85.0		559.1	479.8
1972	121.4	81.7	75.4		513.0	469.8
1973	115.4	92.5	82.1		453.2	502.3
1974	101.3	87.7	74.7		409.5	505.3
1975	94.4	76.4	68.4		405.4	503.0
1976	106.9	76.1	69.4		374.5	492.9
1976 January	2.3	1.5	1.4		8.6	11.0
February	2.2	1.4	1.4		8.3	10.8
March*	2.3	1.5	1.4		8.3	10.5
April	1.9	1.4	1.2		6.6	8.7
May	2.4	1.7	1.5		8.0	10.5
June*	1.7	1.3	1.1		7.0	8.7
July	1.8	1.3	1.2		4.3	6.8
August	2.1	1.6	1.4		7.3	9.0
September*	1.8	1.3	1.2		6.4	8.7
October	2.3	1.7	1.6		7.9	10.6
November	2.4	1.7	1.6		7.9	10.7
December*	1.7	1.3	1.1		6.0	8.2
1977 January	2.2	1.7	1.5		7.7	10.3
February	2.3	1.7	1.6		7.9	10.7

(†) Spun in the cotton industry. (‡) Including yarns wholly of cotton waste and mixture yarn of cotton and cotton waste. * Average of five weeks.

Inquiries: 01-212 0017 or 01-212 6474.

Sales in the carpet industry in February

The daily rate of carpet manufacturers' sales by value in February 1977 at current prices was provisionally estimated to have been 17 per cent more than in February 1976 assuming 20 working days in both February 1977 and February 1976. In the three months ended February 1977 the daily rate of manufacturers' sales was provisionally estimated to have been 21 per cent more than in the corresponding period 12 months ago, assuming 61 working days in the period ended February 1977 and 62 working days in the period ended February 1976. The index numbers which are of manufacturers' sales by value, have been adjusted for the length of the working month, but not for non-statutory holidays or other seasonal factors. The wholesale price index of carpets is shown as a guide to the movement in prices.

1970 = 100

	Index of manufacturers' sales at current prices	Wholesale price index
1969	93	96.6
1970	100	100.0
1971	115	104.9
1972	135	111.7
1973	166	130.2
1974	179	153.1
1975	202	177.8
1976	234	211.3
1975 Quarter ended December	242	190.5
1976 Quarter ended March	220	200.2
Quarter ended June	224	206.6
Quarter ended September	210	214.5
Quarter ended December	283	224.0
1975 November	279	190.2
December	218	192.4
1976 January	204	197.7
February	227	201.1
November	288	222.1
December	273	228.5
1977 January	245	237.3
February	265	239.2*

* = provisional.

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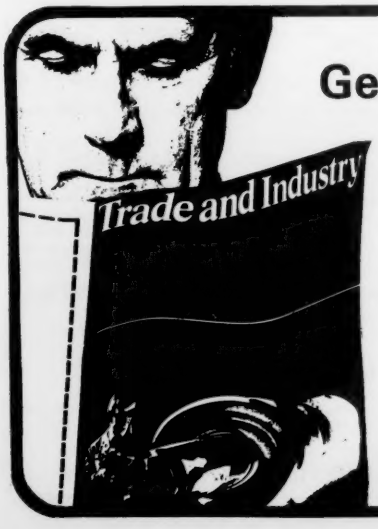
Output in the wool textile industry

The volume of production in the wool textile industry (as measured by the seasonally-adjusted index of production) in February 1977 was 6 per cent more than in February 1976. Statistics issued by the Wool Industry Bureau of Statistics show that in the period January-February 1977 woven fabrics (excluding blankets) were 9 per cent higher than in January-February 1976; deliveries of worsted yarns (excluding semi-worsted yarn) were 14 per cent higher. Production of wool and hair tops was 14 per cent more and that of man-made fibre tops was 6 per cent more.

Output in the wool textile industry

	Consumption	Production			Deliveries			
	Raw wool (clean weight)	Tops		Woollen yarn (†)	Worsted yarn (§)	Woven fabrics (excluding blankets) (‡)		Blankets (†)
		Wool and hair	Man-made fibres			Woollen	Worsted	
	million kilos					million sq. metres		
1968	177.5	96.6	36.4	147.4	98.2	135.8	110.6	27.3
1969	174.5	92.0	42.2	142.2	100.5	130.1	109.2	26.9
1970	153.1	79.7	44.6	129.4	97.6	115.5	99.8	24.6
1971	141.2	66.2	36.6	130.7	93.0	101.9	83.9	28.5
1972	152.3	75.1	45.9	130.9	101.6	99.8	83.7	28.8
1973	136.6	62.2	55.9	135.2	100.0	104.0	88.4	30.6
1974	112.6	43.9	54.8	122.5	87.2	92.1	82.6	28.1
1975	110.6	46.8	44.4	112.1	75.5	76.8	74.6	24.7
1976	119.7	56.5	47.2	108.0	80.8	73.6	69.4	22.8
1975 1st quarter	27.3	11.2	12.8	29.4	20.4	17.7	20.7	7 6
2nd quarter	29.1	11.9	12.7	29.7	19.4	22.5	19.2	5.0
3rd quarter	25.5	11.4	9.2	24.6	15.7	19.8	17.1	5.7
4th quarter	28.7	12.3	9.6	28.4	19.9	16.8	17.6	6.4
1976 1st quarter	31.0	13.8	11.6	29.4	20.6	16.9	18.2	6.5
2nd quarter	30.5	14.5	12.1	27.9	20.3	19.6	16.9	4.4
3rd quarter	27.6	13.4	10.6	23.7	18.2	19.4	16.9	5.2
4th quarter		14.6	13.0	27.0	21.7	17.9	17.5	6.5
1976 January	10.0	4.5	4.3	9.5	6.4	5.1	5.8	2.6
February	9.6	4.2	3.2	9.2	6.6	5.3	5.9	1.9
March	11.4	5.1	4.1	10.7	7.6	6.5	6.5	2.0
April	10.4	5.0	3.9	9.5	7.0	5.7	5.5	1.5
May	10.2	4.8	4.6	9.3	7.0	7.0	5.6	1.4
June	9.9	4.7	3.6	9.1	6.3	6.9	5.8	1.5
July	8.7	4.6	3.8	7.1	5.9	6.1	5.6	1.5
August	8.3	3.5	2.8	7.7	5.3	6.0	4.6	1.7
September	10.6	5.3	4.0	8.9	7.0	7.3	6.7	2.0
October	10.5	4.9	4.9	9.4	7.9	7.1	6.0	2.2
November	10.9	5.4	4.4	9.6	7.7	6.0	6.2	2.2
December	9.2	4.3	3.7	8.0	6.1	4.8	5.3	2.1
1977 January	10.3	5.0	4.0	9.0	7.2	5.8	5.9	2.4
February		4.8	4.0	9.1	7.5	6.2	6.0	2.2

(†) Estimated. (‡) Woven woollen fabrics include fabrics which are mainly woollen by weight of components and, similarly, woven worsted fabrics include fabrics which are mainly worsted by weight of components. (§) From January 1969 includes semi-worsted yarn: previously yarn of this type was not separately distinguished and the small quantities involved were divided between the woollen and worsted yarn headings. In February deliveries of semi-worsted yarn were 0.8 million kilos.



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Wholesale price index numbers in 1976

Output prices

The reduction in the rate of increase of the prices of the products of manufacturing industry which started in the second half of 1975 continued for the first two quarters of 1976. However this trend was reversed in the second half of the year with the last quarter of 1976 showing the largest quarterly rise. The index for all manufactured products rose by 17¾ per cent in the 12 months ending December 1976 compared with increases of 20¾ per cent and 28¼ per cent in 1975 and 1974, respectively.

Widespread price rises for products of the steel sector in July and October were largely responsible for the increase of 29½ per cent in the index for the metal manufacturing industry. This sector of industry showed the largest price increase during 1976. The indices for the metal goods, the bricks and cement and the vehicles industries also rose by more than 20 per cent in the 12-month period. The smallest increase, of 13½ per cent, was in the index for the output of the clothing and footwear industries.

The price of manufactured food rose by 21 per cent in 1976 compared with 16 per cent in the previous 12 months with most of their increase taking place in the second half of the year.

Input prices

Higher prices for a wide range of imported commodities, particularly crude oil, resulting from the spring and autumn depreciation of sterling dominated movements in the index for materials purchased by manufacturing industries other than the food, drink and tobacco industries. This index rose by 28¼ per cent in 1976 following an increase of 14¼ per cent in the previous 12 months.

Price rises for coal, gas and electricity in March and April were largely responsible for the increase of 16 per cent in their index in the 12 months ending December 1976.

The index for materials and fuel purchased by the food manufacturing industries rose by 26¾ per cent in 1976 with home-produced and imported materials showing rises of 18½ per cent and 41½ per cent, respectively. Price rises for both home-produced and imported materials were concentrated in the second half of the year. Steep increases in the price of coffee and imported cereals had the most significant effect.

Most price indices for materials and fuel purchased by individual sectors of industry showed increases in excess of 20 per cent in 1976. The largest increase, 40½ per cent, was in the index for the timber industries.

The wide variation in movements of the indices reflects the relative importance and differing price movements of their imported commodities.

TABLE 1 Price index numbers of materials purchased

1970 = 100

1968 SIC		Annual average					Percentage change				
		1972	1973	1974	1975	1976	1971-72	1972-73	1973-74	1974-75	1975-76
Orders III to XIX	Materials and fuel purchased by manufacturing industry:	109.2	144.5	215.3	235.5 r	299.0	+4.4	+32.3	+49.0	+9.4 r	+27.0
	Materials†	108.6	147.6	222.8	239.8	306.5	+4.3	+35.9	+50.9	+7.6	+27.8
	Coal (except for carbonising), gas and electricity	111.9	113.5	144.3	193.7	227.2	+3.7	+1.4	+27.1	+34.2	+17.3
Orders IV to XIX	Materials and fuel purchased by manufacturing industry, other than food, drink and tobacco manufacturing industries	107.7	141.2	230.6	251.7	317.6	+4.0	+31.1	+63.3	+9.2	+26.2
	Materials†	107.1	145.2	242.8	260.0	330.5	+4.0	+35.6	+67.2	+7.1	+27.1
Order III	Materials and fuel purchased by the food, drink and tobacco manufacturing industries	112.6	141.2	175.8	202.4 r	255.6	+4.6	+25.4	+24.5	+15.1 r	+26.3
	Materials and fuels purchased by selected broad sectors of industry										
211 to 229	Food manufacturing industries	112.9	147.4	178.3	201.6 r	257.6	+5.4	+30.6	+21.0	+13.1 r	+27.8
	Materials	112.9	148.5	178.8	201.4 r	257.9	+5.5	+31.5	+20.4	+12.6 r	+28.1
	Fuel*	114.0	117.6	164.9	208.3	250.2	+3.1	+3.2	+40.2	+26.3	+20.1
211 to 229 (excluding MLH 219)	Food manufacturing industries (excluding animal and poultry foods)	113.2	142.2	172.4	199.8 r	254.6	+5.1	+25.6	+21.2	+15.9 r	+27.4
Order V	Chemicals and allied industries	112.2	135.9	215.4	239.1	283.8	+3.1	+21.1	+58.5	+11.0	+18.7
311 and 312	Steel industries	114.4	124.9	174.9	226.1	279.8	+3.7	+9.2	+40.0	+29.3	+23.8
321 to 323	Non-ferrous metals industry	87.8	117.7	158.4	144.5	188.5	−0.9	+34.1	+34.6	−8.8	+30.4
Order VII (excluding MLH 342)	Mechanical engineering industries	113.0	127.7	175.0	208.1	251.8	+4.7	+13.0	+37.0	+18.9	+21.0
Order IX	Electrical engineering industries	104.6	126.7	167.3	179.3	221.1	+4.1	+21.1	+32.0	+7.2	+23.3
Order X	Shipbuilding and marine engineering industries	110.1	125.2	168.7	206.4	245.0	+3.5	+13.7	+34.7	+22.4	+18.7
Order XII	Metal goods industries	113.6	135.6	190.9	222.5	264.1	+7.1	+19.4	+40.8	+16.6	+18.7
Order XIII	Textile industries	119.0	166.7	189.9	201.7	265.5	+13.6	+40.1	+13.9	+6.2	+31.6
Order XV	Clothing and footwear industries	116.8	138.3	168.3	182.4	214.1	+10.5	+18.4	+21.7	+8.4	+17.4
461, 464 and 469	Bricks, cement, etc. industries	117.8	125.9	170.6	219.8	264.4	+6.0	+6.9	+35.5	+28.8	+20.3
462 and 463	Pottery and glass industries	116.6	124.5	165.7	211.1	255.1	+6.0	+6.8	+33.1	+27.4	+20.8
Order XVII	Timber industries	114.2	162.9	215.4	218.0	271.9	+7.8	+42.6	+32.2	+1.2	+24.7
481 to 484	Paper industries	108.9	124.8	187.3	241.1	279.5	+2.5	+14.6	+50.1	+28.7	+15.9
Order XX	Construction materials	116.4	136.6	175.4	205.7	249.8	+6.7	+17.4	+28.4	+17.3	+21.4
Part of Order XX	House building materials	118.4	141.2	178.0	207.5	252.9	+7.5	+19.3	+26.1	+16.6	+21.9

† Includes crude oil and coal for carbonising. * Includes petroleum products. r revised to be consistent with revised monthly figures.

TABLE 1(a) Price index numbers of materials and fuel purchased by selected sectors of industry

1970 = 100

1968 SIC		Annual average					Percentage change				
		1972	1973	1974	1975	1976	1971-72	1972-73	1973-74	1974-75	1975-76
361	Electrical machinery industry	108.9	126.2	170.6	193.6	236.0	+4.1	+15.9	+35.2	+13.5	+21.9
362	Insulated wires and cables industry	92.3	124.4	155.2	137.3	177.5	+1.7	+34.8	+24.8	−11.5	+29.3
364	Radio and electronic components industry	110.8	124.0	162.3	193.3	230.0	+4.5	+11.9	+30.9	+19.1	+19.0
368	Domestic appliances industry	111.1	123.6	160.0	189.4	227.1	+5.0	+11.3	+29.5	+18.4	+19.9
369	Electrical goods industries n.e.s.	108.8	125.9	165.1	186.2	223.2	+5.2	+15.7	+31.1	+12.8	+19.9
381	Motor vehicle industry	115.9	126.5	166.3	209.2	253.7	+5.5	+9.2	+31.5	+25.8	+21.3
411	Man-made fibres industry	108.1	113.9	167.8	209.7	253.5	+2.3	+5.4	+47.3	+25.0	+20.9
414	Woollen and worsted industry	132.9	221.2	207.8	206.7	294.7	+32.2	+66.4	−6.1	−0.5	+42.6
422/1	Household textiles and handkerchiefs industry	114.5	135.9	185.5	193.2	233.8	+7.1	+18.7	+36.5	+4.2	+21.0
450	Footwear industry	124.7	141.9	162.8	181.2	216.9	+19.6	+13.8	+14.7	+11.3	+19.7
481	Paper and board making industry	106.6	123.6	189.3	248.0	292.3	+1.0	+16.0	+53.2	+31.0	+17.9

TABLE 2 Price index numbers of output (home sales)

1970 = 100

1968 SIC		Annual average					Percentage change				
		1972	1973	1974	1975	1976	1971-72	1972-73	1973-74	1974-75	1975-76
Orders III to XIX	Output of manufactured products†	114.8	123.2	152.0	188.7	219.6	+5.3	+7.3	+23.4	+24.1	+16.4
Orders IV to XIX	Products of manufacturing industry other than food, drink and tobacco manufacturing industries	116.8	126.1	157.2	194.9	227.1	+6.0	+8.0	+24.7	+24.0	+16.5
	Output of selected broad sectors of industry										
211 to 229	Food manufacturing industries	114.1	132.6	165.4	199.8	230.8	+4.5	+16.2	+24.7	+20.8	+15.5
211 to 229 (excluding MLH 219)	Food manufacturing industries (excluding animal and poultry foods)	115.0	128.5	160.0	200.1	228.4	+5.4	+11.7	+24.5	+25.1	+14.1
Order V	Chemicals and allied industries†	113.7	118.9	152.8	188.7	217.5	+5.1	+4.6	+28.5	+23.5	+15.3
Order VI	Metal manufacturing	110.1	126.2	169.8	203.3	247.3	+4.9	+14.6	+34.6	+19.7	+21.6
311 and 312	Steel industries	115.0	125.9	175.3	226.7	269.9	+5.4	+9.5	+39.2	+29.3	+19.2
Orders VII to XII	Engineering and allied industries	116.2	124.5	151.4	190.5	222.6	+5.3	+7.1	+21.6	+25.8	+16.9
Order VII (excluding MLH 342)	Mechanical engineering	117.9	126.0	153.7	196.6	231.2	+6.6	+6.9	+22.0	+27.9	+17.6
Order VIII	Instrument engineering	113.0	117.1	133.3	165.6	194.1	+5.0	+3.6	+13.8	+24.2	+17.2
Order IX	Electrical engineering	113.3	119.5	142.8	173.2	202.6	+4.8	+5.5	+19.5	+21.3	+17.0
Order XI (including MLH 383)	Vehicles	120.4	129.7	158.9	207.4	243.0	+8.9	+7.7	+22.5	+30.5	+17.2
Order XII	Metal goods industries n.e.s.	114.3	126.9	161.4	196.8	233.7	+6.0	+11.0	+27.2	+21.9	+18.8
Order XIII	Textile industries	112.2	131.7	162.2	178.6	205.9	+7.0	+17.4	+23.2	+10.1	+15.2
Order XV	Clothing and footwear	113.4	122.0	141.7	163.6	184.2	+6.5	+7.6	+16.1	+15.5	+12.6
441 to 445 and 449	Made-up clothing	112.2	119.4	139.0	159.9	179.3	+5.5	+6.4	+16.4	+15.0	+12.1
461, 464 and 469	Bricks, cement, etc., industries	121.2	127.8	154.2	202.6	248.6	+7.3	+5.5	+20.7	+31.4	+22.7
462 and 463	Pottery and glass industries	118.4	123.8	146.0	195.1	227.6	+5.1	+4.6	+17.9	+33.6	+16.7
Order XVII	Timber industries	120.6	141.1	177.4	203.9	232.1	+8.6	+17.0	+25.7	+14.9	+13.8
481 to 484	Paper industries	113.5	123.5	171.0	222.3	249.6	+5.6	+8.8	+38.5	+20.0	+12.3
Order XX	New construction‡	119	147	185	223	258 p	+11.2	+23.5	+25.9	+20.5	+15.7 p

Source: Department of Environment.

† Reduction in the VAT exclusive price of alcoholic liquor, tobacco and cigarettes, matches and mechanical lighters took place in April 1973. These reductions resulted from lower revenue duties designed to offset additional tax revenue from VAT. With unchanged prices in April for these products, index numbers for 1973 would have been higher by the following: All manufactured products: 1.3 points; Chemicals and allied industries: 0.2 points.

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TABLE 3(a) Commodities produced in the United Kingdom (as published monthly)

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
Mining and quarrying						
101	Coal	128.1	133.7	183.2	290.4	344.1
102	Stone and slate quarrying and mining	114.6	120.9	159.0	211.5	264.9
102/1	Granite and limestone roadstone	113.7	120.1	153.9	204.0	250.8
	Coated limestone roadstone	119.9	128.2	185.8	242.8	312.1
	Granite and other chippings	112.6	118.4	140.9	191.6	232.6
103	Chalk, clay, sand and gravel extraction					
	Sand and gravel – ex pit or works	119.0	122.5	141.8	182.9	231.6
	Sand and gravel – delivered	111.9	115.8	132.6	160.4	193.4
Food, drink and tobacco						
240	Tobacco*	101.5	94.5	108.4	142.3	165.0
Coal and petroleum products						
261	Coke ovens and manufactured fuel					
	Foundry coke	139.7	147.3	206.6	334.4	394.4
262	Mineral oil refining					
	Petroleum products	127.1	140.1	263.9	326.8	397.2
	Motor spirit two star (including duty)Ø	106.6	111.5	146.5	173.2	203.9
	Medium fuel oil (950-secs including duty)Ø	128.0	135.1	243.3	298.1	370.1
	Derv fuel (including duty)Ø	106.2	109.8	140.7	150.1	190.1
263	Lubricating oils and greases	118.8	133.1	190.2	205.9	245.3
Chemicals and allied industries						
271	General chemicals	109.8	114.4	158.4	201.1	244.6
271/1	Inorganic chemicals (including inorganic gases)	112.3	116.8	140.7	197.0	238.4
271/2	Organic chemicals (including organic gases)	108.1	112.9	185.7	222.6	270.1
272	Pharmaceutical chemicals and preparations					
	Pharmaceuticals chemicals	107.7	112.6	137.6	183.1	212.1
	Pharmaceutical preparations	109.1	112.3	126.9	160.7	192.1
273	Toilet preparations	118.6	124.3	136.8	164.3	189.6
274	Paint	120.6	127.5	161.9	203.5	224.5
276	Synthetic resins and plastics materials and synthetic rubber					
276/1	Synthetic resins and plastics materials	103.8	105.6	156.4	181.8	210.8
	Polyolefin moulding materials	100.6	100.9	166.9	187.6	228.1
	Polyvinyl chlorides	102.0	104.7	161.9	191.3	236.7
279	Other chemical industries					
279/3	Explosives, fireworks etc	124.1	132.1	156.3	204.8 r	250.5
Metal manufacture						
311/2	Steel					
	Steel sheets	112.0	124.8	168.6	203.1	247.6
	Electrical steel sheets	113.2	126.6	169.2	205.2	251.6
	Stainless steel sheets	88.7	97.8	127.6	152.4	182.3
	Uncoated steel sheets (other than stainless and electrical)	115.1	128.3	174.7	210.3	258.2
	Galvanised steel sheets	117.9	131.8	180.2	219.1	257.6
	Tinplate	117.1	128.6	188.2	216.5	251.7
	Semi-finished steels	113.5	127.3	178.2	240.4	299.9
	Semi-finished steels for forgings (other than drop forgings)	111.4	125.1	174.9	239.3	306.1
	Semi-finished steels for alloy stainless products (except sheets and tubes)	103.2	111.3	150.5	208.7	261.1
	Semi-finished steels for drop-forgings and stampings	114.7	123.7	164.5	244.2	304.4
	Semi-finished steels for tubes	116.6	133.3	189.7	249.3	309.4
	Semi finished steel for forgings (other than drop forgings) (using Public Sector indicators)	111.6	122.3	168.3	239.0	308.5
	Finished steels (other than sheets, tinplate, tubes, forgings and castings)	114.2	125.5	177.9	232.8	274.0
	Steel wire rods	115.1	125.6	171.7	225.0	273.7
	Heavy steel rails and fishplates	117.4	127.6	178.2	277.1	300.5
	Steel plates (alloy)	116.0	129.5	192.4	275.7	278.4
	Steel plates (non-alloy)	119.4	131.6	191.9	253.2	276.0
	Steel sheet piling	118.0	129.7	181.5	240.9	289.8
	Heavy steel bars and sections	117.6	129.2	182.3	239.4	282.6
	Light re-rolled bars and sections	116.8	130.5	186.9	231.9	282.7
	Hot rolled steel strip	118.7	138.1	198.7	248.6	305.4
	Bright steel bars (non-alloy)	112.5	121.7	162.3	218.4	276.0
	Cold rolled steel strip (non-alloy)	114.4	124.0	175.0	225.3	261.2
	Alloy steel bars and rods, black (excluding stainless)	103.4	113.9	157.1	202.8	245.0
	Finished stainless steels	85.8	94.1	142.0	182.5	209.9
	High speed tool and magnet steel	101.4	111.2	162.8	206.5	241.9
	Steel castings	116.0	124.8	154.3	211.2	247.3
	Carbon steel castings	118.4	126.0	156.5	210.4	246.7
	Stainless and heat resisting alloy steel castings	106.7	117.2	136.9	190.7	216.5
	Other alloy steel castings	119.1	129.3	165.5	231.5	276.5
	Structural steel	117.4	129.1	183.2	245.9	282.6
	Forgings (other than drop forgings)	120.3	128.1	179.6	255.5 r	338.6
312	Steel tubes					
	Steel tubes and fittings	119.5	127.9	179.0	241.3	286.6
	Steel tubes (other than electric conduit tubes)	119.5	127.8	179.6	242.5	288.2
	Non-alloy steel tubes, hot finished	121.3	129.9	187.9	257.1	303.6
	Pipe fittings	116.9	123.7	163.2	220.5 r	261.2
313	Iron castings etc.	121.3	131.4	169.6 r	232.3	280.7
313/3 and 313/4	Iron castings	121.0	130.7	168.2 r	229.8	273.3
313/4	Other iron castings					
	Cast and spun iron pipes and fittings	118.0	126.7	170.2	239.3	294.7
321	Aluminium and aluminium alloys					
	Wrought aluminium	108.8	118.1	148.9	173.7	217.2
	Aluminium : Rolled	107.7	116.4	143.8	167.0	203.3
	Extruded and drawn aluminium products – other than wire	109.1	118.2	143.6	166.9	218.7

TABLE 3(a) *continued*

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
	Aluminium: Castings	110.3	121.5	166.5	190.7	234.7
	Aluminium: Forgings	107.8	113.2	137.7	169.8	206.7
322	Copper, brass and other copper alloys					
	Copper tubes	86.5	119.9	137.4	109.4	150.9
	Brass ingots	77.0	117.1	160.2	118.7	157.6
Mechanical engineering						
331	Agricultural machinery	119.2	131.0	159.0	200.4	237.8
	Soil preparation and cultivating machinery	119.8	131.9	163.8	206.9	240.4
	Harvesting, threshing, feed-processing machinery etc.	120.2	132.6	159.4	203.7	244.7
	Pick-up balers	120.7	132.1	155.2	203.9	250.5
	Hay and silage making machinery	114.3	122.6	141.5	167.8	194.3
	Grinding mills and meal mixers	118.5	128.6	157.9	195.6	233.2
	Milking machines	115.9	124.5	152.1	186.6	220.9
	Other agricultural machinery (spraying machinery, general purpose elevators and conveyors etc)	115.8	128.1	155.5	185.5	223.4
332	Metal-working machine tools	118.0	127.3	164.0	215.0	250.2
332/1	Metal-cutting machine tools	116.3	126.6	165.4	218.4	253.6
332/2	Metal-forming machine tools	123.1	130.2	165.6	212.4	242.3
333	Pumps, valves, compressors, fluid power equipment	116.8	125.7	153.1	197.6	227.5
333/1	Pumps	115.3	124.1	148.4	183.4	213.1
	Kerbside petrol and oil measuring pumps	108.7	115.3	135.8	170.0	203.0
	Industrial pumps	115.7	124.7	149.2	184.3	213.8
	Centrifugal, turbine and axial flow pumps	112.8	120.9	146.9	185.2	216.9
333/2	Industrial valves	116.7	126.0	160.8	221.9	256.7
	Iron valves	121.8	130.0	159.1	218.9	256.2
	Steel valves	113.5	119.7	160.8	241.7	273.0
	Non-ferrous valves	116.2	130.6	162.4	198.9	236.1
333/3	Air and gas compressors	125.6	137.1	162.1	201.9	229.1
333/4	Fluid power equipment					
	Oil/hydraulic fluid power equipment	114.2	122.1	147.0	183.2	210.8
	Pneumatic fluid power and control equipment	113.7	119.0	134.3	161.3	181.9
334	Stationary internal combustion engines and steam turbines	120.6	128.0	151.1	186.6	229.0
336	Construction and earth-moving equipment	120.0	128.3	152.0	189.0	234.9
	Contractors' plant and parts	120.4	128.4	151.6	188.1	233.9
	Excavators, trenchers, diggers, etc.	124.2	133.9	161.0	195.6	254.2
	Concrete mixers	120.0	130.3	154.5	200.6	230.3
	Dumpers	116.2	123.2	149.2	199.6	229.4
	Crawler tractors	120.6	127.5	146.4	174.2	211.0
	Crushing and screening plant and parts	115.6	126.0	157.3	201.0	242.5
337	Mechanical handling equipment	119.9	128.7	156.6	193.2	222.9
337/2	Cranes	114.5	123.0	146.5	189.4	220.6
337/4	Lifting and winding devices	120.5	128.1	156.6	194.3	227.0
337/5	Powered industrial trucks and tractors	119.2	128.0	157.4	199.6	233.7
339/1	Mining machinery	123.0	127.1	144.2	177.3	204.0
339/3	Commercial and industrial refrigeration machinery	121.6	129.1	152.9	181.8	223.5
339/5	Scales and weighing machinery	120.9	132.6	164.1	209.6	243.0
339/6	Portable power tools	113.3	119.5	140.5	177.0	208.4
339/7	Food and drink processing machinery	117.3	123.2	147.9	183.9	219.6
339/8	Bottle washing, bottling, packaging, labelling and canning machinery	118.9	125.0	148.4	188.2	219.7
339/9	Miscellaneous machinery	117.2	125.3	150.8	191.1	223.6 p
Instrument engineering						
352	Clocks, watches and time recorders	111.3	117.7	142.3	178.4	212.2
354	Scientific and industrial instruments and systems	113.1	117.4	132.3	166.0	194.7
354/1	Optical instruments					
	Microscopes	111.7	115.5	130.7	162.2	189.7
354/2	Other scientific and industrial instruments					
	Process measuring and control instruments	112.8	116.8	130.7	169.6	202.0
	Analytical instruments	114.9	120.0	133.0	160.6	181.9
	Spectrophotometers and absorptiometers	113.0	117.8	124.8	141.9	153.4
	Electrical testing, measuring and control instruments	114.1	118.8	130.7	161.1	188.6
Electrical engineering						
365	Broadcast receiving and sound reproduction equipment	106.8	109.7	117.8	136.5	148.3
365/1	Gramophone records and pre-corded tapes	115.7	125.2	132.3	161.6	183.9
	Gramophone records	115.7	125.5	136.8	166.7	189.7
	Pre-recorded tapes – cassettes	112.7	115.3	133.1	165.2	187.6
	Pre-recorded tapes – cartridges	102.3	104.0	114.1	139.7	160.0
365/2	Other broadcast receiving and sound reproduction equipment	105.8	108.0	116.2	133.8	144.4
	Domestic television receivers†	105.9	108.1	116.4	134.9	145.9
	Domestic television receivers – colour†	102.0	102.7	107.4	123.9	133.2
	Domestic television receivers – monochrome†	107.1	109.7	119.0	138.0	149.5
	Record players and tape recorders	104.3	105.0	111.9	131.6	142.2
368	Domestic electrical appliances	113.2	115.3	129.2	158.6	181.7
	Domestic electrical cooking appliances	117.3	122.4	136.1	161.4	188.2
	Electric cookers	118.7	124.8	137.7	158.8	186.3
	Domestic electrical heating appliances	113.0	116.0	133.1	167.8	196.8
	Electric fires	115.4	116.7	129.0	158.2 r	191.2
	Electric water heaters, wash boilers, etc.	114.2	125.6	157.8	204.6	245.7
	Electric vacuum cleaners and polishers	114.7	116.9	132.9	165.5	188.5
	Domestic electric flat irons	117.2	118.5	135.0	185.0	210.6
	Domestic refrigerators, gas and electric	109.2	108.8	121.6	154.5	173.6
	Domestic electric refrigerators	107.4	105.9	122.4	158.0	177.3
369/2 and 369/3	Batteries and accumulators	116.4	125.2	156.3	182.5	224.4
369/4	Electric lamps and fluorescent tubes	115.4	115.6	124.9	162.2	192.5

TABLE (3a) *continued*

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
Vehicles						
380	Wheeled tractors	127.4	136.6	165.8	227.6	290.8
381	Motor vehicles					
	Passenger cars	119.3	129.2	155.7	202.4	235.6
	Passenger cars ‡	111.6	119.9	143.4	184.5	214.8
	Commercial and public service vehicles	121.1	130.3	162.0	216.6	256.9
	Commercial vehicles	121.9	130.2	161.5	217.8	259.5
	Commercial vehicles and chassis not exceeding 3.5 tons Gross Vehicle Weight	120.3	128.9	159.5	215.5	258.0
	Commercial vehicles and chassis exceeding 3.5 tons but not exceeding 16 tons Gross Vehicle Weight	124.1	134.3	167.5	227.6	269.4
	Commercial vehicles and chassis exceeding 16 tons Gross Vehicle Weight	118.5	128.5	160.4	206.8	239.5
	Commercial vehicles not exceeding 1½ tons Gross Vehicle Weight	123.4	132.0	162.6	216.5	259.2
	Commercial vehicles and chassis over 1½ tons Gross Vehicle Weight	120.4	130.0	161.9	216.4	256.3
	Public service vehicles	120.3	128.3	161.1	218.8	256.0
Metal goods not elsewhere specified						
390	Engineers' small tools and gauges					
	Engineers' cutting tools	110.2	117.4	134.2	164.5	198.3
	Engineers' cutting tools: diamond	107.0	113.4	128.1	148.7	167.2
	Engineers' cutting tools and parts: non-diamond	110.1	117.6	134.5	165.9	200.4
	Hacksaw blades	113.6	119.7	139.1	162.0	202.9
391	Hand tools and implements	118.0	128.7	157.4	203.7	243.8
392	Cutlery and tableware, etc.	117.1	125.1	151.5	188.0	222.3
393	Nuts and bolts etc.	116.7	123.9	164.4	219.4	281.3
	High tensile steel nuts and bolts	122.8	130.3	177.7	237.4	298.4
399	Metal industries not elsewhere specified					
399/1	Metal furniture, office and works equipment	112.0	122.2	152.1	182.1	207.8
	Metal non-domestic furniture	115.9	126.7	157.6	188.6	216.9
	Metal chairs	112.0	120.4	144.6	169.0	190.2
	Metal cabinets	115.2	123.2	160.1	187.7	209.0
399/2	Metal windows and door frames					
	Metal windows and curtain walling	132.5	189.3	218.1	273.9	339.0
399/9	Domestic gas appliances	111.2	112.0	126.8	153.1	182.6
	Gas cookers	112.9	113.2	126.4	152.0	182.3
	Gas water heaters and wash boilers	110.1	113.4	138.9	170.5	197.4
	Gas fires and space heaters	108.2	109.2	122.6	147.9	177.2
	Gas water heaters and gas fires	108.7	110.3	127.1	154.2	182.8
399/12	Miscellaneous metal goods					
	Catering equipment	112.0	117.2	136.8	175.3 r	208.3
	Plumbers' brassware	107.0	123.9	148.5	161.1	192.3
	Domestic oil burning appliances	112.4	120.5	151.2	191.3	225.2
Textiles						
411	Man-made fibres production	103.6	105.7	137.9	156.9	175.4
412	Spinning and doubling on the cotton and flax systems	109.2	131.8	171.6	169.6	220.1
	Cotton yarns, cotton-spun man-made fibres yarns and mixtures of both	115.2	143.9	191.0	185.0	248.8
413	Weaving of cotton, linen and man-made fibres	115.7	135.2	182.0	194.1	221.7
	Woven cotton cloth in the loomstate	117.4	138.8	193.8	190.2	229.1
	Man-made fibres fabrics in the loomstate	114.8	132.1	172.5	195.0	212.6
414	Woollen and worsted	121.4	169.9	183.9	194.8	239.1
414/2	Worsted spinning	123.5	171.2	179.3	185.5	226.2
	Yarns of wool spun on the worsted system	127.9	188.3	189.5	191.3	237.4
	Yarns of man-made fibres spun on the worsted system	112.0	123.5	149.4	166.2	187.1
417	Hosiery and other knitted goods	104.9	116.2	139.5	153.1	169.2
419	Carpets and rugs	111.7	130.1	153.1	177.8	211.3
	Carpets	111.6	130.0	152.9	177.5	211.0
	Carpets-woven	115.2	138.0	162.2	189.1	231.4
	Tufted carpets	104.5	114.3	134.7	154.7	170.8
429	Other textile industries					
429/1	Asbestos manufactures	109.5	111.5	135.3	170.4	203.6
Leather, leather goods and fur						
431/1	Leather for footwear	138.5	161.2	156.7	160.0	200.3
Clothing and footwear						
450	Footwear – including rubber footwear	116.5	129.6	149.0	173.0	196.4
Bricks, pottery, glass, cement etc						
461	Bricks, fireclay and refractory goods	122.6	132.0	162.1	209.7	252.5
461/1	Refractory goods including bricks	119.4	124.6	156.8	212.0	256.0
461/2	Non-refractory goods including building bricks	124.2	135.5	164.6	208.5	250.8
	Building bricks – delivered	131.7	148.3	179.6	223.0	262.3
	Engineering bricks – delivered	138.3	156.1	200.7	235.8	285.2
463	Glass	117.9	122.8	145.1	196.8	230.1
463/1	Glass other than containers	117.4	123.1	141.8	192.3	226.9
	Flat glass (including safety and silvered glass)	117.9	122.7	140.0	191.5	222.9
	Glazing sheet and plate glass	113.1	116.4	126.3	163.9	200.3
463/2	Glass containers	118.6	122.3	150.1	203.6	234.7
464	Cement	127.4	127.4	145.6	204.2	251.6
	Cement – delivered in bulk	127.4	127.4	145.6	204.2	251.5
	Cement – delivered in bags	127.4	127.4	145.6	204.2	251.9
469/2	Building materials not elsewhere specified	120.6	126.6	151.9	200.5	249.6
	Precast concrete products	118.7	128.3	149.2	193.4	238.3
	Precast concrete pipes – delivered	119.2	125.4	145.6	211.8	277.2
	Precast concrete manholes – delivered	115.5	117.5	135.8	177.4	219.8
	Plaster gypsum	109.0	111.8	145.7	199.7	223.6
	Mastic asphalt	103.7	104.5	133.2	176.4	223.1
Timber, furniture, etc						
471/1	Timber, sawmilling, etc.					
	Homegrown hardwood – sawn	117.5	165.0	222.2	224.0	243.0

TABLE 3(a) *continued*

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
471/2	Building joinery	127.4	158.6	194.1	225.7	265.8
	Timber structures and structural components	114.9	141.7	196.7	227.4	265.8
	Door sets, doors and door frames (excluding hardwood doors architecturally designed)	126.0	157.2	194.7	225.3	264.6
	Windows and window frames (wood)	131.8	164.1	195.6	244.6	291.9
	Other building joinery (ie architectural and general joinery)	119.2	154.7	188.6	222.1	267.4
472	Furniture and upholstery	118.7	131.0	159.2	189.4	211.7
	Domestic furniture	118.4	130.0	155.4	185.4	208.0
	Bedroom furniture	111.5	120.7	143.9	169.8	191.2
	Bookcases, bookshelves, bureaux, occasional furniture	118.6	133.8	159.3	186.0	209.0
	Dining room furniture	118.7	129.9	159.0	189.9	214.6
	Kitchen furniture	121.4	135.7	164.9	203.0	233.3
	Upholstered furniture	120.0	130.2	152.9	179.9	197.0
473	Bedding etc.	120.7	131.9	169.1	199.7	229.7
	Upholstered spring interior mattresses	121.9	132.2	167.9	199.2	234.2
	Divan sets	124.3	137.9	183.3	223.5	252.8
Paper, printing and publishing						
481	Paper and board	110.6	120.4	170.6	219.4	246.7
	Printings and writings – excluding newsprint	110.7	121.2	165.9	213.0	243.1
482	Packaging products of paper, board and associated materials					
482/1	Cardboard boxes, cartons and packing cases – fibreboard	113.4	124.1	168.5	220.2	250.1
483	Manufactured stationery	118.2	127.9	166.8	217.7	249.0
484	Manufactures of paper and board not elsewhere specified					
484/1	Wallpaper	116.9	127.3	168.9	216.9	226.4
489	Other printing, publishing, bookbinding, etc.					
	General printing, bookbinding, etc.	116.9	124.7	151.4	184.8	210.4
Other manufacturing industries						
491	Rubber manufactures					
491/1	Rubber tyres and tubes	115.7	119.9	149.3	178.6	202.9
492	Linoleum, plastics, floor covering and leathercloth					
	Linoleum and felt base	112.5	115.9	146.4	183.9	208.8
102/1 (Part) and 103 (Part)	Aggregates for concrete	116.6	120.9	140.3	181.8	212.9
312, 361/2, 362, 369/5	Part Electrical installation materials, domestic	108.6	118.5	155.6	176.0	208.2
338, 399/1, 399/3, 472	Part Office equipment and machinery	113.0	122.7	148.9	173.7	191.7
399/1, 472	Part Office furniture	119.1	134.6	170.6	209.7	235.8
412, 414	Part All spun man-made fibres yarns	112.8	125.6	157.3	170.4	198.2

ø Index based on scheduled outer zone prices for minimum bulk loads of 500 gallons (motor spirit 1,000 gallons) exclusive of rebates.
* Reductions in the VAT-exclusive price of tobacco took place in April 1973. This reduction resulted from lower revenue duties designed to offset additional tax revenue from VAT.
† Excludes sales to rental companies.
‡ Inclusive of purchase tax (before its abolition) VAT and Car Tax.
p Provisional
r Revised to be consistent with revised monthly figures.

TABLE 3(b) Commodities wholly or mainly imported into the United Kingdom (as published monthly)

1970 = 100

	Annual averages				
	1972	1973	1974	1975	1976
Hides and skins	186.2	214.8	174.0	159.5	309.3
Non-ferrous metals:					
Aluminium, virgin ingot delivered	91.9	95.6	127.6	152.8	193.9
Copper‡	72.5	123.3	148.8	94.6	132.2
Lead‡	95.2	138.2	199.6	146.8	197.0
Nickel§	103.1	114.8	135.9	168.3	226.6
Tin, ingot min. 99.75%‡	98.4	128.6	228.4	201.9	276.8
Zinc‡	122.5	282.0	429.3	272.3	320.2
Zinc§	122.0	168.6	259.9	286.1	345.8
Natural rubber	84.1	165.7	178.6	162.5	260.0
Sulphur, crude cif (for acid making)	86.5	98.4	159.8	259.1	349.2
Textiles:					
Raw cotton, all types	116.6	204.2	229.5	196.9	356.7
American types, cif Liverpool	120.1	210.2	232.0	199.8	360.8
Egyptian types, cif Liverpool	99.1	174.4	217.2	182.5	336.5
Raw wool – all types	151.8	316.8	242.5	205.3	305.2
Imported	156.3	332.3	250.3	210.7	303.7
Imported, merino	149.7	355.6	259.4	214.5	277.1
Imported, fine crossbred	159.0	349.4	250.8	204.7	303.7
Imported, medium and coarse crossbred	173.7	303.5	256.2	228.7	386.6
British types	126.2	229.2	198.4	175.1	313.8
Timber:					
Imported hardwood (ex-yard or wharf)	122.7	197.6	243.1	229.8	292.7
Imported plywood (delivered to consumers)	116.7	170.8	232.1 r	221.9	273.3
Imported softwood (delivered to consumers)	111.6	195.8	258.8	238.5	314.2
Woodpulp, imported	103.2	124.0	196.0	284.7	333.1

‡ LME settlement price.
§ Producer's price.
r Revised to be consistent with revised monthly figures.

TABLE 4(a) Supplementary list of commodities produced in the United Kingdom (as published April, August and December)

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
Mining and quarrying						
102/1	Stone quarrying and mining	114.1	120.5	157.7	210.6	263.5
	Granite and other chippings, aggregate and roadstones	109.4	115.9	144.5	191.1	227.2
	Coated granite and whinstone roadstone	117.8	123.3	180.1	251.2	314.5
	Uncoated limestone roadstone and aggregates	115.4	120.1	142.4	192.4	237.3
	Uncoated limestone roadstone (excluding aggregates)	114.0	118.6	138.4	187.4	230.6
	Agricultural ground limestone	105.9	107.7	130.1	165.1	196.1
	Industrial ground limestone	108.9	116.7	137.6	178.3	226.2
102/2	Slate quarrying and mining					
	Slates	128.9	137.6	178.1	240.3	309.1
103	Chalk, clay, sand and gravel extraction	117.1	119.9	142.0	185.4	231.2
	China clay	124.8	127.3	148.9	200.0	229.1
	Moulding sand	110.6	117.4	134.7	176.6	205.0
109	Other mining and quarrying					
109/3	Salt mines, brine pits, salt works					
	Salt	121.8	123.1	133.7	173.0	213.1
Food, drink and tobacco						
211/1	Wheat milling					
	Flour for bread making	112.5	131.5	246.2	261.5	278.6
216	Sugar					
	Sugar – bulk granulated	119.1	127.9	166.2	338.6	297.3
217	Cocoa, chocolate and sugar confectionery					
	Chocolate and sugar confectionery	115.4	120.2	159.1	212.6	238.3
221	Vegetable and animal oils and fats	90.5	151.4	252.0	193.8	242.6
231	Brewing and malting‡	109.3	98.0	110.0 r	141.8 r	169.8
240	Tobacco					
	Cigarettes	101.4	94.4	108.7	141.8	164.7
	Pipe tobacco	102.3	95.3	111.0	147.5	167.8
Chemicals and allied industries						
271/1	Inorganic chemicals (including inorganic gases)					
	Caustic soda, soda ash, and other sodium compounds	119.5	124.7	156.6	230.7	287.9
	Caustic soda	119.5	121.7	139.3	209.1	248.7
	Soda ash	119.0	128.0	169.8	250.8	323.4
	Other sodium compounds	120.2	124.4	160.8	231.7	290.7
	Inorganic chemicals other than sodium and sodium compounds	110.1	114.3	135.7	186.4	222.8
	Sulphuric and other inorganic acids	106.4	108.7	127.3	162.7	193.5
	Sulphuric acid	94.6	95.5	118.5	132.1	161.7
	Inorganic acids (other than sulphuric)	116.7	120.3	135.1	189.7	221.5
	Blacks, carbon and mineral	115.2	116.6	192.2	234.8	266.6
	Phosphorous and phosphorous compounds	133.7	141.2	162.8	328.3	353.6
271/2	Organic chemicals (including organic gases)					
	Alcohols	106.0	107.1	177.1	222.0	273.1
	Coal tar products	109.3	120.3	218.6	292.3	358.1
	Halogenated, sulphonated, nitrated or nitrostated derivatives of hydrocarbons	113.1	114.0	123.7	155.6	190.5
	Phenols	100.6	101.9	217.4	253.4	286.7
	Nitrogen-function organic compounds	102.9	103.5	135.2	176.1	196.9
271/3	Other chemicals					
	Bleaching materials	111.0	112.6	123.2	170.1	215.0
	Plasticisers	100.9	105.0	171.3	202.0	230.7
	Phthalate plasticisers	98.2	102.3	168.3	197.0	224.9
272	Pharmaceutical chemicals and preparations					
	Anti-infective agents	102.0	105.5	116.5	148.5	172.0
	Antibiotic preparations	96.0	97.3	102.2	125.5	145.8
	Hormone preparations	99.4	100.0	102.3	116.3	128.8
	Preparations affecting metabolism and nutrition	108.0	113.0	127.8	161.0	200.3
	Vitamins	105.0	107.5	115.9	138.4	171.2
	Preparations affecting the nervous system	109.3	110.6	125.5	157.0	193.6
	Analgesics	113.6	119.0	138.2	173.3	209.1
	Aspirin and compounds	117.9	125.3	144.9	181.6	213.8
	Other analgesics	104.8	106.2	124.8	156.8	199.6
	Anti-depressives	103.8	107.7	121.5	151.0	186.8
	Preparations acting on the cardiovascular system	101.1	102.3	111.6	128.6	152.3
	Preparations acting on the alimentary system	116.9	121.3	140.7	193.9	231.4
	Laxatives	121.7	128.4	161.9	228.7	261.6
	Preparations acting on the respiratory system	119.5	123.6	142.2	184.8	229.4
273	Toilet preparations					
	Hair settings, lotions and spirits	118.3	121.4	125.7	142.5	161.6
	Soapless shampoos	115.0	121.6	132.0	155.9	185.2
	Dental preparations	116.5	121.9	132.4	168.0 r	189.6
	Preparations especially for men	117.3	126.7	140.8	175.6	202.9
	Make-up	124.9	132.3	147.1	176.9	203.4
	Face powders	125.6	134.8	153.6	180.0	205.3
	Lipsticks	133.8	139.0	151.0	184.6	208.7
	Manicure preparations	127.5	133.0	141.6	193.5	235.0
	Other make-ups	120.5	128.5	144.6	165.1	190.1
	Eye make-up	116.2	125.2	134.2	160.1	180.9
	Treatment creams	118.1	123.3	138.8	169.2	198.1
	Face creams	116.6	121.2	130.4	154.5 r	177.1
	Hand creams and jellies	116.4	122.5	146.1	186.7	223.9
	Face and skin lotions	121.4	126.8	144.1	175.9	206.9
	Talcum, baby and other dusting powders	121.7	126.2	144.9	179.3	209.9
	Depilatories and deodorants	114.4	119.0	124.8	144.8	163.9

TABLE 4(a) (*continued*)

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
274	Paint					
	Oil and/or synthetic-based non-aqueous air-drying primers, surfacers and sealers	120.5	126.7	161.8	225.3	259.6
	Oil and/or synthetic-based non-aqueous air-dying undercoats	123.8	131.6	165.7	200.2	218.3
	Oil and/or synthetic-based non-aqueous air-dying finishes	122.1	128.6	160.2	198.9	215.7
	Emulsion paints	119.9	125.5	148.9	180.6	193.9
	Paste fillers and mastics	116.4	134.5	197.8	232.8	252.0
275	Soaps, detergents, candles and glycerine	112.3	123.7	162.8	185.0	210.0
	Glycerine	111.9	116.0	187.5	230.6	269.3
	Soap (excluding scouring powders)	116.9	128.7	165.4	196.4	213.1
	Toilet and shaving soap	118.9	133.7	178.2	211.0	222.7
	Soapless detergents	109.4	113.3	146.2	175.2	195.4
	Soapless detergents: pastes and other forms (excluding powders	110.4	115.3	150.0	170.9	188.7
	Scouring powders	117.0	122.5	136.4	154.8	203.5
	Oleine, stearine, etc.	102.5	144.6	218.7	184.6	230.6
276	Synthetic resins, plastics materials and synthetic rubber	104.0	106.3	159.5	185.3	214.0
	Laminated materials	110.4	125.8	202.0	235.9	248.1
	Phenolic and cresylic plastics – resins	108.3	114.5	176.9	211.9	246.7
	Phenolic and cresylic plastics – moulding powders	104.8	106.6	143.0	171.8	202.9
	Polystyrene and styrene copolymers – moulding powders	102.5	107.0	176.6	203.7	241.1
	General purpose polystyrene	102.0	107.7	203.6	243.3	290.9
	Expandable polystyrene, and styrene copolymers	102.8	105.2	157.4	180.3	216.9
	Transparent cellulose wrapping	118.3	121.8	154.4	179.9	200.3
277	Dyestuffs and pigments	115.7	122.0	141.5	174.0	214.8
	Pigments	114.1	123.3	150.2	188.4	235.6
	Inorganic pigments and earth colours	107.3	120.0	142.8	169.2	206.7
	White lead, dry*	101.9	128.0	168.0	156.7	195.3
279	Other chemical industries	115.1	120.6	146.0	187.1	216.4
279/2	Formulated adhesives, gelatine etc.					
	Adhesives	114.5	121.3	160.5	195.9	217.6
279/4	Formulated pesticides etc.					
	Formulated pesticides	108.7	114.0	146.8	198.5 r	224.5
	Herbicides	111.1	118.0	157.5	215.7	238.7
279/6	Surgical and medical dressings and sanitary towels	115.9	123.6	151.2	181.8	206.0
	Surgical and medical dressings	115.8	124.8	155.2	180.8	204.1
	Sanitary towels	116.1	122.4	146.9	182.9	208.1
279/7	Photographic paper and film and photochemical materials	111.5	114.2	132.5	169.3	194.4
	Sensitised paper, cloth, etc.	112.5	115.4	136.5	171.2	193.4
Metal manufacture						
313	Iron castings etc.					
313/3	Engineers' castings					
	Automobile iron castings	120.6	126.6	165.5	226.1 r	257.9
	Engineers' castings (other than automobile castings)	122.7	132.6	164.2	222.6	269.3
	Malleable iron castings	119.8	130.2	171.8	234.7	282.8
313/4	Other iron castings					
	Building and domestic castings (excluding malleable)	120.6	136.7	182.7	250.0	291.9
	Cast iron stoves and grates, etc.	121.1	141.0	193.2	258.8	305.0
321	Aluminium and aluminium alloys					
	Aluminium plate, sheet and strip	107.7	116.8	144.6	167.5	203.4
322	Copper, brass and other copper alloys					
	Copper sheet and strip	85.7	125.7	151.5	116.5	155.9
	Wrought brass	90.0	131.6	168.7	134.0	173.5
	Brass strip and sheet (and yellow metal condenser plates)	88.2	132.7	172.9	131.8	171.9
323	Other base metals					
	Magnesium ingots, electrolyte min. 99.8%*	96.6	108.0	183.2	251.2	303.3
	Titanium (alloy billets)	104.2	104.2	113.5	151.2	186.1
	Silicon min. 98% pure*	103.4	128.8	262.3	318.1	317.8
	Zinc sheets, 1-17mm basis*	139.5	180.7	263.0	279.9	339.0
	Bismuth§	56.8	74.9	146.5	139.6	166.8
	Cobalt metal, delivered UK*	103.5	131.3	159.7	188.8	266.2
	Lead sheet and pipe	99.6	130.6	176.6	161.9	192.7
Metal goods not elsewhere specified						
391	Hand tools and implements					
	Handsaws and blades (excluding hacksaws)	117.1	131.6	166.6	211.7	245.3
	Pliers, pincers and nippers	126.7	133.3	159.0	209.5	263.9
	Agricultural, horticultural and other heavy edged tools	117.5	125.6	151.4	192.3	235.2
	Carpenters', builders' and other light edged tools	114.5	121.9	146.4	201.4	234.7
	Spanners and wrenches	118.1	133.1	168.4	207.4	247.1
392	Cutlery and tableware, etc.					
	Razors and razor blades	115.0	117.9	125.5	150.1	179.0
	Razor blades	115.0	117.9	125.7	150.5	179.6
	Knives, scissors, etc.	117.9	128.6	165.5	205.8	224.5
	Scissors and tailors' shears	116.9	128.8	161.6	195.0	233.8
	Spoons and forks	118.7	129.3	169.8	224.1	264.2
	Spoons and forks: silver plated	126.9	139.4	201.8	246.9	306.1
	Spoons and forks: stainless steel	125.0	134.2	168.1	204.5	237.0
394	Wire and wire manufactures	107.0	123.3	158.7	178.0	219.9
	Wire and wire manufactures of iron and steel	115.4	124.3	165.2	203.2	245.9
	Iron and steel wire, single stranded	116.1	127.8	172.5	220.2	270.2
	Iron and steel wire, single – bright	116.0	127.7	171.7	219.8	268.8
	Iron and steel wire, galvanished	116.3	128.4	177.4	222.4	278.7
	Wire rope	123.1	130.9	155.8	198.1	231.3
	Wire netting	118.2	125.5	151.0	184.3	233.0
	Chain link fencing	111.6	117.9	147.1	174.5	211.4

TABLE 4(a) *(continued)*

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
394	Wire and wire manufactures *cont.*					
	Reinforcement fabric	109.1	113.2	159.6	169.2	195.4
	Wire and wire manufactures of brass and bronze	93.1	115.3	141.6	126.7	164.9
	Brass and bronze woven wire cloth, etc.	115.2	125.8	147.2	160.8	202.8
	Wire and wire manufactures of copper	78.6	126.9	153.0	103.8	144.0
	Copper wire in coils, H.C. wire, 3.15mm*	78.3	127.0	153.1	103.3	143.4
	Woven copper wire	108.1	120.4	143.7	154.7	197.8
395	Small metal boxes and containers	116.7	124.8	167.6	207.7	246.0
396	Jewellery and precious metals					
	Silver bullion*	90.6	139.7	268.7	269.7	327.1
399	Metal industries not elsewhere specified					
399/1	Metal furniture					
	Metal storage cupboards, lockers, shelving and racking	117.4	130.2	157.1	190.3	221.0
	Kitchen and bathroom furniture	102.0	110.5	138.4	164.8	184.4
399/6	Domestic hollow ware	121.6	129.2	156.8	189.1	214.8
	Domestic hollow-ware – aluminium	124.0	130.2	151.1	181.9	205.7
399/7	Industrial hollow ware	117.3	126.3	159.6	203.6	235.3
	Steel drums	118.2	127.1	158.5	200.7	238.0
399/8	Needles, pins, fish hooks and other metal small wares					
	Slide and zip fasteners of metal	119.3	121.6	144.4	178.8	213.3
399/12	Miscellaneous metal goods					
	Metal furnishings for doors and windows	111.7	126.6	164.3	203.1	231.7
	Fire extinguishing apparatus (hand operated, chemical)	119.8	123.3	139.8	175.0	196.6
Textiles						
412	Spinning and doubling on the cotton and flax systems					
	Cotton yarns, cotton – spun man-made fibres yarns and mixtures of both	115.2	143.9	191.0	185.0	248.8
	Cotton yarns	116.7	161.8	224.1	201.9	300.0
	Cotton-spun mixture yarns of cotton and man-made fibres	118.2	127.5	137.8	136.8	170.1
	Cotton-spun man-made fibres yarns	113.4	126.9	162.1	172.6	203.7
	Cotton-spun regenerated man-made fibre yarns	119.6	140.4	193.1	204.3	236.4
	Processed yarns of man-made fibres	92.1	96.6	114.5	119.2	134.0
	Spun yarns of flax and man-made fibres	110.5	139.0	184.1	213.5	249.0
	Flax spun yarns of man-made fibres	107.2	115.6	143.1	167.7	186.0
413	Weaving of cotton, linen and man-made fibres					
	Woven cotton cloth in the loomstate					
	Tyre cord fabric	118.9	135.2	189.5	184.8	200.9
	Other plain cloths (grey), tea towelling, cleaning and dishcloths	113.9	141.8	200.2	188.8	226.3
	Woven linen in the loomstate	114.8	139.0	192.5	213.1	256.4
	Heavy linen	118.5	141.0	187.2	225.3	271.5
	Woven fabric of glass fibre	102.6	107.5	144.0	191.5	225.2
	Woven cloth of glass fibre – except insulation fabric	98.8	102.6	142.2	191.9	224.6
414/1	Wool sorting, cleaning etc, and combing and topmaking					
	Wool tops*	144.6	275.3	218.2	189.2	294.1
414/3	Woven worsted fabrics	118.0	173.4	189.8	202.2	240.7
414/4	Wool recovery					
	Wool rag*	103.3	202.8	215.1	208.2	247.5
414/5	Woollen spinning and weaving					
	Woven woollen fabric	120.3	160.6	184.6	201.9	246.9
	Other woven woollen fabrics	120.3	161.8	182.8	202.4	255.2
	Yarns spun on the woollen system	125.2	178.8	182.3	188.4	249.7
414/6	Pressed wool felt	114.6	150.0	185.9	216.8	257.4
415	Spinning and weaving of jute and other yarns on the jute system	123.3	127.7	152.6	191.8	215.9
	Spun yarns of jute and man-made fibres	123.9	128.2	148.3	175.4	198.1
416	Rope, twine and net	111.2	128.5	190.9	242.4	243.3
	Cordage, cables, ropes and twine of textile materials	111.4	129.8	194.9	247.0	246.3
	Nets and netting	107.7	110.6	137.6	179.5	202.4
417	Hosiery and other knitted goods					
	Hosiery and other knitted goods – hose	102.3	107.1	119.4	134.2	146.4
	Men's hose	104.5	114.2	133.5	148.3	166.5
	Women's hose	107.0	111.2	122.1	140.0	154.0
	Children's hose	105.9	115.1	138.2	157.0	171.0
	Panti-hose, etc.	93.6	95.0	103.3	112.6	118.6
	Hosiery and other knitted goods – underwear	111.1	126.8	154.6	178.5	205.3
	Men's knitted underwear	112.9	126.7	161.2	176.8	209.3
	Men's knitted underwear – man-made fibres and mixture of natural and man-made fibres	123.7	143.5	176.0	190.6	212.5
	Women's knitted underwear	110.1	130.0	148.7	179.6	202.6
	Children's and infants' knitted underwear	110.2	121.3	154.5	179.3	203.5
	Children's and infants' knitted underwear – cotton	110.5	119.5	152.5	177.9	199.8
	Hosiery and other knitted goods – knitted outerwear	105.3	119.0	140.1	155.8	169.8
	Knitted headgear and scarves	141.4	189.3	217.5	240.4	246.6
	Knitted fabrics	103.0	113.2	143.9	149.9	166.8
	Knitted fabrics – weft	102.7	116.2	159.0	160.2	179.0
	Knitted fabrics – warp	103.3	109.8	127.0	138.4	153.2
419	Carpets and rugs					
	Carpets					
	Axminster carpets	115.6	138.5	161.1	187.7	231.0
	Wilton carpets	114.3	136.8	164.7	192.5	232.3
	Rugs	116.7	134.4	159.5	187.0	221.5
421	Narrow fabrics	118.1	131.6	173.0	196.9 r	225.2
421/1	Elastic webs and cords	112.0	118.1	146.2	170.2 r	194.5
421/3	Non-elastic fabrics	122.2	140.3	188.8	213.4	244.2

TABLE (4a) (*continued*)

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
421/3	Non-elastic fabrics *cont.*					
	Peterhsams, galloons and ribbons	124.3	137.0	162.0	187.4	213.5
422	Made-up textiles	120.5	142.3	192.5	202.9	225.3
422/1	Household textiles and handkerchiefs	116.7	140.9	188.7	196.3	223.1
	Bed linen – sheets and bedspreads	116.4	142.9	188.2	189.6	212.3
	Tea towels, cleaning and polishing cloths	118.0	140.6	199.2	222.0	252.0
422/2	Canvas sacks and bags and other made-up textiles	128.2	145.3	200.9	216.7	230.0
	Other made-up textiles of canvas, cotton, man-made fibres, etc.	119.8	146.3	205.8	213.8	250.2
429	Other textile industries	108.6	112.0	131.5	164.6	195.7
429/1	Asbestos manufactures					
	Asbestos brake and clutch linings – replacement sales to factors	120.4	126.2	148.3	191.7	241.7
429/2	Other manufactures					
	Hair, fibre and allied industries	107.2	113.0	125.4	155.0	182.8
	Needleloom felt and carpeting	108.2	118.4	134.8	159.7	183.5
	Leather, leather goods and fur					
432	Leather goods					
	Travel goods	116.5	130.6	160.8	186.3	215.4
	Clothing and footwear					
441	Weatherproof outerwear	108.9	116.6	141.2	162.2	180.2
442	Men's and boys' tailored outerwear	117.4	123.7	143.3	168.2	190.7
	Men's and youths' overcoats	114.4	117.7	123.5	132.0	148.2
	Men's and boys' suits	118.7	128.5	151.4	181.2	211.6
	Men's and boys' jackets – sold separately (including blazers)	112.0	121.0	143.5	170.5	184.3
	Men's and boys' trousers – sold separately	119.8	122.5	137.8	157.5	173.2
443	Women's and young girls' tailored outerwear	109.7	116.7	131.5	158.0	178.9
	Women's overcoats	112.1	119.4	135.8	163.7	182.5
	Women's suits, skirts and slacks – excluding jeans	109.7	116.8	132.8	155.5	176.2
444	Overalls and men's and boys' shirts	112.8	121.8	151.6	169.0	192.3
444/1	Heavy overalls, aprons and jeans	115.4	131.0	179.3	194.0	233.2
444/2	Men's and boys' shirts, nightwear, etc.	111.8	118.2	141.1	159.5	176.6
	Men's and boys' shirts	111.9	117.3	137.4	154.8	171.6
	Men's and boys' shirts – woven fabric	113.2	122.3	145.0	164.3	179.6
	Men's and boys' shirts – knitted fabric	110.6	112.6	130.4	145.9	164.2
	Men's and boys' dressing gowns	115.3	132.7	156.1	176.1	192.1
445	Dresses, lingerie, infants' wear, etc.	108.8	115.9	130.8	146.1	158.0
445/1	Light outerwear	109.1	115.4	129.2	143.4	155.7
445/2	Lingerie	107.8	116.5	139.1	158.3	169.9
445/3	Infants' wear	109.7	117.1	122.3	135.4	146.9
449	Dress industries not elsewhere specified	112.8	119.6	140.0	164.2	188.9
449/1	Corsets, brassieres and swimwear	113.4	119.6	138.0	161.4	184.8
	Women's corsets	114.2	121.8	143.4	168.0	189.4
	Brassieres	112.4	115.9	129.8	152.0	179.6
	Swimwear	113.0	120.2	137.2	158.2	178.4
449/2	Gloves	115.9	126.1	157.2	190.4	226.5
	Fabric gloves	123.5	129.0	154.2	194.4	235.4
	Leather gloves	111.8	124.4	158.9	188.2	221.6
450	Footwear – including rubber footwear					
	Boots and shoes with leather uppers	116.0	131.3	148.2	171.6	198.0
	Men's boots and shoes with leather uppers	118.6	140.4	162.8	188.6	217.0
	Women's shoes and bootees with leather uppers	114.9	128.3	139.8	163.6	189.8
	Boys', girls' and infants' boots and shoes with leather uppers	114.5	124.1	144.5	163.3	186.8
	Boots and shoes with uppers wholly or mainly of materials other than leather	116.0	122.9	140.6	163.2	176.9
	Slippers and indoor footwear	118.7	127.6	158.7	184.8	199.3
	Sandals	116.9	136.3	164.0	191.0	226.2
	Bricks, pottery, glass, cement, etc					
461	Bricks, fireclay and refractory goods					
461/1	Refractory goods including bricks					
	Basic bricks	114.0	116.5	152.7	209.6	267.7
	Fireclay refractories	113.2	119.4	147.8	193.5	225.4
461/2	Non-refractory goods including building bricks					
	Building bricks and clay partition blocks	126.8	140.0	168.7	217.1 r	259.1
	Facing bricks, fletton (delivered)	110.0	121.1	134.5	179.8	199.9
	Facing bricks, non-fletton (ex-works)	132.2	147.9	182.8	232.2 r	287.4
	Common building bricks fletton (delivered)	120.6	129.2	148.6	208.1	235.1
	Common building bricks non-fletton (ex-works)	131.5	144.7	177.9	221.4 r	270.3
	Engineering bricks (ex-works)	138.4	158.7	198.1	238.6	280.4
	Non-refractory goods (other than bricks)	117.4	123.9	153.9	187.3	229.3
	Roofing tiles (ex-works)	136.4	154.9	189.1	249.8	305.3
	Fireclay sanitary ware	118.6	121.2	133.1	173.8	212.9
	Floor quarry tiles (ex-works)	119.2	132.2	150.2	172.4	213.7
462	Pottery	120.1	127.1	148.7	189.7	219.9
462/2	Vitreous china sanitary ware and pottery tiles	120.7	127.5	146.9	180.5	202.7
	Vitreous china sanitary ware	122.3	129.5	146.1	184.1	222.2
	Pottery tiles	119.5	125.9	147.5	177.8	187.7
462/3	Other china and earthenware					
	Domestic earthenware	122.8	131.1	151.9	193.9	228.9
463	Glass					

TABLE 4(a) *(continued)*

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
463/1	Glass (other than containers)					
	Glass products (other than flat glass and containers)	117.1	123.4	143.5	193.0	230.4
	Scientific and machinery glassware (including tubing and rod)	121.4	130.2	154.2	198.2	234.7
	Illuminating glassware	118.1	123.2	143.8	172.1	208.2
	Domestic glassware	121.8	126.0	142.2	177.2	207.6
	Hand gathered domestic glassware	112.7	122.5	144.8	187.5	207.6
463/2	Glass containers					
	Glass containers, for the food processing industry	116.4	119.0	149.5	203.4	232.2
	Glass containers, other than for the food processing industry	119.1	123.0	150.2	203.6	235.3
469	Abrasives and building materials not elsewhere specified					
469/1	Abrasives	114.8	122.1	152.4	191.9	228.9
	Abrasive papers and cloths	120.1	135.1	170.0	216.0	255.1
469/2	Building materials not elsewhere specified					
	Pitch fibre pipes	111.4	117.0	150.7	181.0	218.1
	Precast concrete products					
	Precast concrete building blocks (delivered)	120.9	136.1	155.5	190.1	236.4
	Precast concrete building blocks (ex-works)	119.9	125.0	142.2	174.3	213.6
	Precast concrete – flags and kerbs (delivered)	106.1	110.6	124.5	151.8	177.1
	Asbestos cement products	122.7	125.5	149.8	200.3	257.7
	Sandlime bricks	138.2	148.0	173.0	216.6	256.3
	Lime products	127.2	131.2	156.7	200.9	237.6
	Agricultural lime	116.3	121.5	149.7	186.1	242.2
	Hydrated lime for building and industry	124.5	128.1	158.9	209.7	245.5
	Plaster board	115.6	117.9	149.0	214.6	241.3
	Roofing felt	115.9	121.9	159.1	188.5	234.5
	Fencing	115.5	138.2	180.9	202.3	231.6
Timber, furniture, etc						
471/1	Timber – sawmilling etc					
	Homegrown hardwood					
	Homegrown hardwood: ash – sawn	109.0	138.2	185.8	189.6	206.6
	Homegrown hardwood: elm – sawn	107.9	130.3	170.7	173.8	192.7
	Homegrown hardwood: beech – sawn	114.5	145.8	183.4	175.9	202.8
	Homegrown hardwood: oak – sawn	125.2	194.0	265.2	271.7	289.2
	Homegrown hardwood: pallet timber – sawn	114.1	165.4	251.2	234.9	243.9
472	Furniture and upholstery					
	Domestic furniture					
	Non-upholstered furniture – domestic	117.4	129.8	156.9	188.9	214.7
	Two and three-piece suites	119.7	130.0	148.7	174.6	189.3
	Fireside chairs – open wood arm easy chairs	120.8	132.8	164.2	190.6	216.2
475	Wooden containers	118.4	135.2	183.6	200.7	209.7
479	Miscellaneous wood and cork manufactures	117.6	144.2	195.1	214.0	237.2
479/3	Other wood wool manufactures					
	Wood wool – including manufactures	118.6	128.5	177.7	227.1	277.7
Paper, printing and publishing						
481	Paper and board					
	Paper and board – other than building board	110.6	120.3	170.6	219.4	246.9
	Coated paper	108.5	117.3	154.4	205.3	232.9
	Coated paper – off machine	110.2	120.3	158.1	212.4	240.7
	Coated paper – on machine	105.8	112.5	148.6	194.5	221.0
	Uncoated paper	110.5	120.8	172.7	222.2	249.6
	Printings and writings – including newsprint	110.9	122.2	173.8	221.3	254.0
	Kraft wrapping paper	111.3	124.1	183.0	230.7	249.1
	Other wrapping paper	107.3	115.4	170.7	222.1	243.4
	Household and other tissues – including cigarette tissues	110.2	117.7	166.5	228.5	252.9
	Industrial and special purpose papers	111.5	120.3	171.3	222.5	244.9
	Uncoated board	112.5	121.3	176.2	221.8	248.3
	Packaging boards	112.1	121.2	177.5	223.4	251.8
	Boards for industrial and special purposes	113.7	121.7	172.8	217.5	238.6
	Coated board	110.2	120.4	166.5	214.0	248.0
482	Packaging products of paper, board and associated materials	114.2	125.9	176.2	228.8	256.2
482/1	Cardboard boxes, cartons and packing cases – fibreboard					
	Cardboard boxes	115.8	122.8	162.3	204.0	233.4
	Cartons	117.0	126.7	164.2	217.1	252.1
	Cartons – food	117.2	127.0	161.6	213.9	249.3
	Cartons – other than for food	117.0	126.6	165.3	218.5	253.4
	Packing cases – fibreboard	109.7	121.7	173.0	225.9	251.8
	Packing cases – fibreboard – solid	113.6	123.6	178.7	227.8	254.6
	Packing cases – fibreboard – corrugated	109.2	121.4	172.2	225.7	251.4
482/2	Packaging products of paper and associated materials	116.4	131.2	198.8	254.2	274.4
	Paper sacks	112.5	126.3	180.3	251.5	281.0
	Paper sacks – food	112.9	126.8	179.4	251.1	280.1
	Paper sacks – other than for food	112.0	125.6	181.4	252.0	282.2
	Paper bags	120.0	137.8	214.1	279.7	293.3
483	Manufactured stationery					
	Commercial envelopes	116.5	126.5	175.4	229.9	244.9
	Business forms	112.8	119.3	159.5	204.2	233.8
	Counter check books and forms for loose leaf binders	111.6	118.5	152.8	204.8	246.9
	Continuous stationery	110.9	117.2	162.3	214.1	239.9
	Stationery and scholastic books	121.7	133.1	170.8	216.5	245.3
	Loose leaf supplies	123.1	138.9	185.4	257.7	308.9
	Filing supplies	120.4	130.9	177.2	256.1	302.7
484	Manufactures of paper and board not elsewhere specified	112.0	120.8	162.4	213.3	239.0
484/2	Other manufactures of paper and board	109.8	118.1	159.5	211.8	244.7
	Cellulose paper products	103.3	111.2	151.8	205.2	235.9

TABLE 4(a) *(continued)*

1968 SIC		Annual averages				
		1972	1973	1974	1975	1976
	Doyleys	116.7	126.4	160.9	207.6	251.6
	Toilet paper	111.4	119.1	162.6	216.1	251.5
	Paper rolls and coils	111.5	117.3	151.7	203.7	230.6
Other manufacturing industries						
491/2	Rubber goods – other than tyres and tubes	117.2	126.4	171.2	210.1	238.6
	Hose of rubber or plastics	121.2	136.6	191.2	248.6	287.8
	Motor parts and accessories of rubber	127.4	136.1	181.0	230.0	254.7
	Machinery belting of rubber and plastics	120.6	133.0	225.5	278.4	332.1
	Miscellaneous rubber goods	110.0	114.0	137.9	169.4	189.6
493	Brushes and brooms	116.4	123.8	157.5	191.2	218.2
	Decorating brushes and rollers	111.8	121.8	151.8	178.9	202.5
	Toilet brushes	121.7	125.7	150.2	183.0	222.2
	Industrial brushes and polishing mops	112.1	124.7	156.1	198.6	217.1
	Household brushes and brooms	119.6	124.4	165.8	203.0	230.6
494	Toys, games, baby carriages and sports equipment	119.8	129.4	164.0	194.7	221.9
494/1	Toys and games	123.3	133.7	173.4	205.0	231.3
	Metal toys	126.6	140.2	182.6	226.2	265.1
	Metal toys – non-mechanical	126.2	140.3	183.8	226.9	267.7
	Dolls and soft toys	124.6	129.9	158.7	195.4	215.5
	Indoor games	128.8	136.6	179.1	188.5	201.1
	Plastics toys	114.7	122.7	155.8	185.7	202.9
	Pedal cars, scooters, toy perambulators and children's tricycles and bicycles	134.1	148.4	198.5	226.2	262.0
	Pedal cars and scooters	134.6	146.6	188.8	214.0	245.4
	Toy perambulators	135.4	152.5	202.5	221.7	259.7
494/2	Perambulators, folding baby carriages and push chairs	116.1	125.6	156.1	186.9	216.7
	Perambulators	116.8	126.3	154.7	181.8	213.1
	Folding baby carriages	113.5	124.4	162.5	193.2	221.7
	Push chairs	119.4	126.3	147.1	183.7	213.5
494/3	Sports equipment	110.3	117.2	137.0	164.6	193.7
495	Miscellaneous stationers' goods	113.5	119.2	140.3	169.0	186.7
495/1	Pens and pencils of all kinds					
	Pencils – non-mechanical	119.3	132.5	167.7	205.8	236.0
495/2	Stationers' goods – other than pens and pencils	114.6	118.6	140.4	174.6	195.9
496	Plastics products not elsewhere specified	109.8	115.4	148.8	176.0	203.6
	Plastics products – other than components, accessories and semi-manufactured goods	109.1	114.6	152.4	177.2	205.6
	Building materials of plastics	110.3	118.9	171.7	194.6	227.3
	Water services' pipes and fitments of plastics	110.4	117.0	181.3	194.4	234.6
	Other piping and fittings – drainage, effluent, etc.	105.4	111.4	152.0	184.2	221.0
	Builders' hardware of plastics	115.6	126.8	193.1	203.4	225.7
	Domestic, catering and furnishing goods of plastics	110.2	116.4	145.2	169.4	195.1
	Hollow-ware and hardware of plastics – including kitchen-ware	109.5	115.5	143.8	167.5	191.8
	Plastics dress fasteners	120.1	120.1	139.4	163.0	187.3
	Plastics sleeving	108.3	111.4	137.2	154.7	187.4
	Packaging materials of plastics	106.6	112.3	149.8	174.4	203.5
	Plastics caps, closures, bottles and jars	108.4	115.4	153.5	175.6	209.4
	Plastics foam-upholstery, cushioning and floor covering	111.8	114.9	153.3	181.4	203.7
499/1	Musical instruments	118.5	131.1	158.6	187.8	208.5
	Pianos	126.9	141.1	171.7	206.5	236.7
429, 463, 469, 479, 481	Part Thermal insulation materials	107.7	116.5	156.9	204.0	234.8

‡ Reductions in the VAT – exclusive price of beer took place in April 1973. This reduction resulted from lower revenue duties designed to offset additional tax revenue from VAT.
§ Producers' price.
* Source of price information: trade publications.
r Revised to be consistent with revised monthly figures.

TABLE 4(b) Supplementary list of commodities wholly or mainly imported into the United Kingdom (as published April, August and December)

1970 = 100

	Annual averages				
	1972	1973	1974	1975	1976
Crude oil ø	128.1	167.3	483.6	567.8	747.5
Imported paper and paperboard (including newsprint)*	112.0	128.1	195.1	239.9	265.3
Imported paper and paperboard (excluding newsprint)*	112.2	128.5	196.5	243.0	263.9
Imported newsprint	111.2	126.0	189.1	226.5	271.3
Timber, imported:					
Mahogany	115.6	183.0	240.3	220.9	303.6
Utile	135.7	262.7	264.0	248.5	374.5
Beech	128.8	203.0	289.8	248.8	272.2
Ramin	122.4	234.7	206.0	229.4	333.2
Meranti	111.2	175.3	203.1	214.8	258.2
Quicksilver, min. 99.99%, cif Europe*	38.3	52.2	53.6 r	28.6 r	29.9
Asbestos, Canadian, fob Quebec*	105.1	106.0	138.8	188.0	282.7
Iron ore, imported	112.3	119.1	149.2	200.2 r	254.6
Bauxite, Min 86% Al_2O_3*	129.5	132.0	187.0	245.0	309.8
Manganese ore 48-50% Mn grade, Max. 0.1%P., cif Europe*	113.5	140.7	225.2	287.5	366.6
Tungsten ore, Min. 65%, cif Europe*	48.3	55.9	116.0	127.6	199.2
Phosphate rock	105.5	126.6	360.9	437.5	382.1
Phosphate rock for fertiliser manufacture	106.7	131.5	365.1	440.3	394.0
Hides and skins:					
Native	212.7	234.0	173.9	156.7	342.6
Imported	168.8	202.3	174.0	161.4	287.5

TABLE 4(b) continued

	Annual averages				
	1972	1973	1974	1975	1976
Hides and skins *contd*					
Imported, wet	174.0	179.6	148.8	137.1	260.9
Imported, dry	152.2	231.3	178.7	162.9	250.8
Raw silk	105.9	193.6	158.3	141.4	183.9
Raw jute:					
BWD grade, c and f Dundee*	106.6	103.4	125.9	143.7	126.6
BWC grade, c and f Dundee*	106.6	104.3	128.3	148.2	149.5
BTC grade, c and f Dundee*	110.3	104.8	127.9	148.6	149.1
BTD grade, c and f Dundee*	110.2	102.7	128.5	151.2	151.3
Flax, imported	118.7	164.0	222.3	216.3	320.7
Sisal	143.4	312.0	676.8	476.5	486.3
Cotton, rags, home produced	88.6	95.1	154.9	117.2	112.6
Waste paper, home produced	95.8	109.2	199.2	155.7	204.0
Gum arabic, Kordofan, ex-wharf London*	102.2	140.5	381.1	236.8	282.5
Rosin gum, WW Portuguese*	118.4	134.2	210.7	207.4	186.2
Woodpulp, imported:					
For use in paper and boardmaking industries	103.0	124.8	195.9	286.2	334.9
Chemical	102.6	122.6	191.3	279.4	326.5
Sulphite bleached	101.9	121.6	188.5	278.7	325.9
Sulphate bleached and semi-bleached	102.2	122.9	190.9	273.5	320.5
Sulphate unbleached, kraft	102.4	123.2	202.8	305.9	355.5

	Annual averages				
	1972	1973	1974	1975	1976
Wood rosin, American FF*	110.8	123.3	202.2	234.1	245.9
Castor oil Brazilian No. 1 grade*	178.6	377.3	284.4	211.1	313.5
Soya beans, US No. 2 grade, cif UK*	113.3	182.9	240.5	202.2	261.9
Linseed, Canadian No. 1, cif UK*	109.5	268.1	420.3	311.2	340.7
Copra, Philippine, cif Europe*	59.4	140.1	294.1	124.0	166.9
Palm kernels, Nigerian, cif basis-ports*	66.4	149.4	281.7	132.8	183.9
Olive oil, Spanish, edible max. 1% ffa*	128.9	191.9	319.2	365.2	401.9
Fish oil, cif, east coast UK*	67.5	133.7	228.5	157.6	202.5
Palm oil, crude, London, spot price*	88.2	159.4	320.2	205.1	233.4
Linseed oil, cif London/Hull*	86.8	244.9	509.6	354.3	337.2
Coconut oil, cif Europe*	85.2	139.4	323.6	128.6	169.0
Groundnut oil, London, spot price*	108.6	136.6	291.1	260.9	275.1
Lemongrass oil, Cochin, spot price*	102.3	122.5	186.5	145.7	210.8
Citronella oil, Sri Lanka, spot price*	118.5	151.8	307.5	154.9	131.7
Lime oil, West Indian, distilled, spot price*	102.3	122.5	188.3	174.7	178.6
Clove oil, Madagascan, crude, spot price*	102.9	120.6	254.9	171.3	179.8
Sandalwood oil, Indian, spot price*	102.3	122.5	185.9	88.3	125.9
Peppermint oil*	120.5	129.7	371.8	190.1	172.7
Geranium oil, Bourbon, spot price*	114.3	137.8	198.4	163.5	200.9
Eucalyptus oil, Portuguese, spot price*	80.6	99.1	270.6	157.9	94.3

ø Based on unit value of imports at their time of entry.
* Source of price information: trade publications.
r Revised to be consistent with revised monthly figures.

Notes on index numbers of wholesale prices 1970 = 100

1 The index numbers are calculated from the price movements of about 11,500 closely-defined materials and products representative of goods purchased and manufactured by United Kingdom manufacturing industry.

2 Prices collected are those quoted for current orders. For some goods the usual time lag between placing of order and date of delivery may be lengthy.

3 Prices obtained for UK-produced goods may be on an ex-works or delivered basis according to the practice in the trade concerned. Where a producer supplies ex-works and also delivers, generally only the more important basis is reported on. Prices of imported goods are measured on as closely as practical to a delivered basis.

4 Most producers, including those contributing to the engineering sector output indices now contribute at monthly intervals. The date of price change is given enabling an average for the month to be calculated.

5 When an item priced ceases to be available or is no longer representative it is necessary to remove it from the index. An adjustment is made to the new level to maintain comparability.

6 When an item is modified or a replacement item added to the index an adjustment is made in the calculation of the index numbers to account for differences in specification and to maintain comparability. Where price information for these items is collected from the manufacturer the adjustment is normally made after consultation with him.

7 Prices for these closely-defined items are combined into index numbers of commodities produced in the UK or commodities wholly or mainly imported.

8 For calculation purposes the formula is

$$\frac{100\ \Sigma\ (qb\ pr)\ pi/pr}{\Sigma\ qb\ pr}$$

where p and q are price and quantity respectively and b, r and i denote respectively the base year, reference year and any period. This resolves to a more familiar form of the Laspeyre formula namely

$$\frac{100\ \Sigma\ qb\ pi}{\Sigma\ qb\ pr}$$

Thus the index numbers express the cost of a 1968 'basket of goods' as a percentage of what the same basket cost in 1970.

9 In building up commodity price index numbers into those for wider groups including the index numbers of materials purchased and those of the output of broad sectors of industry, net weights are used, ie transactions between undertakings within the same sector are excluded. For example steel is included in the index for all manufactured products only to the extent that it is sold outside manufacturing such as to the construction industries: steel sold within the manufacturing sector is excluded. However sales of capital goods are all treated as sales outside manufacturing industry, in accordance with national income accounting practice, which treats capital formation as a separate sector.

10 The weights have been derived from the Census of Production supplemented by short-term statistics of production, the Trade Accounts, information supplied by trade associations and various other sources.

11 Product descriptions in the index numbers generally correspond to principal products (or groups of principal products) of an industry as defined in the Census of Production. The value on which the weight for a principal product is based includes the value of sales of that product by establishments classified to other census industries.

12 All the index numbers are compiled exclusive of value added tax and (before its abolition) of purchase tax. Revenue duties (on cigarettes and manufactured tobacco, alcoholic liquor, matches and mechanical lighters) are included. The duty on hydrocarbon oils is excluded from output price series that cover these products (unless specifically noted to the contrary) but is included in series for materials and fuel purchased by sectors of industry.

13 The value of goods for which no price series are available is imputed to price series which may be expected to move similarly.

14 For the index numbers of materials and fuel purchased by manufacturing industry (tables 1 and 1(a)) an allowance is made for the changes in price of imported goods which account for a substantial share of the total supplies to industry of an individual product. Price changes in imported supplies and home-produced supplies of the product are calculated separately and then combined

in a way that allows for changes in proportion between them. This method was first introduced in *Trade and Industry*, 11 July 1974.

15 New titles have been introduced for some series in tables 3(a) and 4(a) to reduce possible confusion in their interpretation. There are no corresponding changes in the compilation of the indices.

16 Several index series previously published in table 4(a) are now published monthly in table 3(a). Many series, not previously published, were included in table 3(a) as from 17 December 1976.

17 Firm and provisional indices, at all levels of aggregation, include imputation for items for which there is no current price information. Additional provisional figures will be published for those indices where there are insufficient returns to allow accurate imputation.

18 First provisional indices are published for all series in tables 3(a) and 3(b) but a suffix E will be added to indicate those index values which are subject to possible major revisions.

19 To facilitate further calculation the index numbers are given to one decimal place in most cases, but small month to month movements have little significance. Revisions to firm index numbers will only be made if they are significant. These revisions will be notified when the series are next published. Consequent revisions to annual averages will be published in the next annual article.

20 Details of the constituent items and weights used in the construction of the index numbers in tables 1 and 2 may be obtained on application.

21 The 1968-based series of wholesale price indices, reference year 1970, was introduced in *Trade and Industry*, 21 June 1973. Previously the wholesale price index series was based on 1963 with the reference year also 1963. The 1963 based series was introduced in February 1969 and an article explaining the differences between the 1963- and 1954-based series appeared in the *Board of Trade Journal* of 21 February 1969. Other articles of particular relevance to the development of the wholesale price indices appeared in the *Board of Trade Journal* of 21 March 1958 and 13 February 1959, and in *Economic Trends* of September 1958.

Further information

Correspondence about wholesale price index numbers should be addressed to Statistics Division 4, Room 249, Sanctuary Buildings, Great Smith Street, London SW1P 3DB. Telephone inquiries for price index numbers should be made to 01-215 3544 (Tables 1 and 2 indices), 3549 (engineering), 5216 (chemicals, steel, building materials, etc.), 3548 (textiles, clothing, timber, paper, etc.), 3173 (imported commodities).

TABLE A Analysis of changes in price quotations for individual items, December 1975-December 1976

SIC Order	Total quotations	Quotations decreased*	Quotations unchanged*	Quotations increased*	Analysis of the quotations that have increased*									Average Increase (%)
					Under 5%	5%-10%	10%-15%	15%-20%	20%-25%	25%-30%	30%-35%	35%-40%	Over 40%	
Food, drink and tobacco (III)	42	7.1	0.0	92.9	11.9	21.4	23.8	19.1	4.8	7.1	0.0	4.8	0.0	14.4
Coal and petroleum products (IV)	29	0.0	0.0	100.0	0.0	0.0	0.0	37.9	37.9	20.7	3.5	0.0	0.0	22.1
Chemical and allied industries (V)	1,143	2.3	11.3	86.4	3.9	11.8	17.9	15.9	14.4	7.8	6.1	3.4	5.2	19.8
Metal manufactures (VI)	641	0.0	0.3	99.7	0.6	1.9	15.6	19.7	8.7	11.9	15.9	8.6	16.8	28.0
Mechanical engineering (VII)	1,782	1.6	5.1	93.3	2.8	12.8	21.5	23.3	16.7	9.0	3.4	2.1	1.7	17.7
Instrument engineering (VIII)	407	0.7	11.8	87.5	3.4	14.5	26.3	19.4	14.5	4.2	1.5	2.0	1.7	16.4
Electrical engineering (IX)	572	2.1	6.1	91.8	4.0	14.7	21.1	20.5	16.3	7.7	3.5	2.3	1.7	17.6
Shipbuilding and marine engineering and vehicles (X and XI)	416	0.7	1.2	98.1	4.3	9.4	11.3	30.3	28.4	8.9	3.8	0.7	1.0	18.9
Metal goods n.e.s. (XII)	1,101	0.6	4.3	95.1	1.2	8.1	13.4	18.3	19.1	15.6	8.6	5.2	5.6	22.7
Textile industries other than clothing (XIII)	1,018	0.9	5.0	94.1	5.3	10.9	16.9	18.8	12.3	9.0	4.5	4.5	11.9	22.3
Leather, leather goods and fur (XIV)	55	0.0	9.1	90.9	0.0	9.1	16.4	16.4	25.4	7.3	1.8	3.6	10.9	23.5
Clothing and footwear (XV)	479	1.3	10.4	88.3	7.1	20.0	21.9	17.8	12.1	3.5	2.1	1.9	1.9	15.2
Bricks, pottery, glass, cement etc (XVI)	624	0.8	1.4	97.8	2.1	10.7	21.8	27.7	14.0	10.3	4.3	1.1	5.8	19.4
Timber, furniture etc. (XVII)	522	0.0	4.8	95.2	2.7	17.2	14.6	14.2	17.8	11.9	6.7	2.5	7.6	21.3
Paper, printing and publishing (XVIII)	735	1.4	7.9	90.7	2.6	11.8	27.0	25.4	11.7	6.5	3.3	0.8	1.6	16.8
Other manufacturing industries (XIX)	759	1.7	7.5	90.8	3.4	11.9	18.3	19.9	19.4	10.4	3.2	1.7	2.6	18.3
1975/76 TOTAL	10,325	1.2	6.0	92.8	3.2	11.6	18.9	20.7	15.7	9.4	5.2	3.0	5.1	19.7
1974/75	10,132	3.8	6.5	89.7	4.7	11.6	15.9	16.1	14.5	9.2	6.8	3.7	7.2	18.6
1973/74	10,132	2.5	3.4	94.1	2.0	5.4	8.8	11.1	13.9	13.0	10.5	8.0	21.4	28.4
1972/73	10,144	2.2	17.1	80.7	11.7	26.6	16.2	9.7	5.5	3.0	2.3	1.2	4.5	15.3

* Expressed as a percentage of the total number of quotations.

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Registrations of British, community and foreign films

The following are details of films registered by the Department of Trade under the Films Acts 1960 to 1970, as amended by the European Communities Act 1972, during the week ended Friday, 6 May 1977.

BR/E indicates that the film is a British quota film, EC that the film is a quota film. The date which forms part of the registration number of each is the date on which quota life of the film expires.

Title of film	Registered no.	Playing time minutes	Date of registration	Registered in the name of	Maker's name
			BRITISH		
Review No. 9 (30th Year)	BR/E 39130/8/5/82	10	3 May	Data Film Distributors Ltd	The National Coal Board, London
Movietone News 2500	BR/E 38861/8/5/82	8	6 May	British Movietonews Ltd	British Movietonews Ltd
			FOREIGN		
The House Of Exorcism	F 39131	91	5 May	Scotia-Barber Distributors Ltd	Silverstein Int Corporation, New York
Burnt Offerings	F 39132	115	5 May	United Artists Corporation Ltd	Pea Inc, New York
When Joseph Returns	F 39133	92	6 May	Essential Cinema Ltd	Zsolt Kezdi Kovacs, Budapest

AMENDMENT TO THE REGISTER

The title of the film 'Niok', F 22913, registered on 5 November 1957, has been amended to 'Niok, The Orphan Elephant' and the playing time to 25 minutes.

Statistical inquiries into industry's purchases

Information about industry's purchases of materials for use in production, packaging, fuels, etc, has to be collected from time to time for a number of important purposes. These include the bringing up to date of the basis of calculation of the monthly index numbers of wholesale prices of materials used by the various sectors of industry and the compiling of input/output tables for the UK economy.

Detailed breakdowns of firms' purchases were obtained in the last of the old series of periodic large-scale censuses of production, which related to the years 1963 and 1968. With the introduction from 1970 of the new series of annual censuses of production which collect summary information only, it was decided that the Business Statistics Office would seek detailed information about purchases every few years in inquiries carried out separately from the censuses.

The first of these new purchases inquiries was held for 1974. Some 24,000 questionnaires were sent out early in 1975 to the larger firms in the manufacturing, mining and quarrying industries and the public utilities. Results for the individual industries covered by the inquiry have been compiled and will be published later this year in the industry volumes of the Report on the Annual Census of Production for 1974 (the PA series of Business Monitors, available from Her Majesty's Stationery Office).

Inquiries about the results should be addressed to Room 4.15, Business Statistics Office, Newport, Gwent NPT 1XG, tel. Newport (0633) 56111, ext. 2392.

A further purchases inquiry is planned for 1979. Views on the content of the questionnaires will be invited later this year from trade associations representing the businesses that will be covered by the inquiry, and advance information copies will be sent to the businesses themselves in 1978. Copies for completion will be issued at the beginning of 1980.

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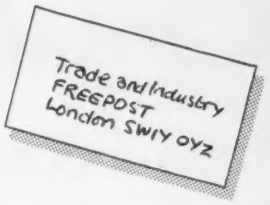

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